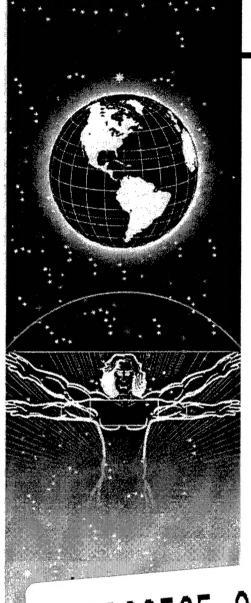
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UNITED STATES AIR FORCE RESEARCH LABORATORY

INTERLABORATORY STUDY (ILS) OF THE STANDARD TEST METHOD FOR MEASURING THE NIGHT VISION GOGGLE-WEIGHTED TRANMISSIVITY OF TRANSPARENT PARTS

> Alan R. Pinkus Harry L. Task

HUMAN EFFECTIVENESS DIRECTORATE CREW SYSTEM INTERFACE DIVISION WRIGHT-PATTERSON AFB OH 45433-7022

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INTERIM REPORT FOR THE PERIOD APRIL 1995 TO DECEMBER 1997



Human Effectiveness Directorate Crew System Interface Division 2255 H Street Wright-Patterson AFB, OH 45433-7022

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AFRL-HE-WP-TR-1998-0016

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FOR THE COMMANDER

HENDRICK W. RUCK, PhD

Chief, Crew System Interface Division

Air Force Research Laboratory

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1. TITLE

INTERLABORATORY STUDY (ILS) OF THE STANDARD TEST METHOD FOR MEASURING THE NIGHT VISION GOGGLE-WEIGHTED TRANSMISSIVITY OF TRANSPARENT PARTS

Committee F-7 on Aerospace and Aircraft Enclosures. Subcommittee F-7.08 on Transparent Enclosures and Materials

RR: P94-02: XXXX

2. INTRODUCTION

There are several ASTM Standards that address light transmissivity through transparencies (ASTM Standards F 1316-90D and 1003-61) in the visible spectrum (400 through 700 nm). However, night vision goggles (NVGs) are now being used in aircraft and other applications (e.g., marine navigation, surveillance, personnel carriers) with increasing frequency. These devices amplify both visible and near-infrared (NIR) spectral energy. A transparency may have excellent visible transmissive characteristics but could have poor NIR transmissivity. Overall visual performance (acuity) can be degraded if the observer uses the NVGs while looking through a transparency that has attenuated transmissivity in the NIR region (Pinkus and Task, 1997, see Appendix A). ASTM P94-02, Standard Test Method for Measuring Night Vision Goggle-Weighted Transmissivity of Transparent Materials (see draft in Appendix B) addresses this issue. This ILS was undertaken in order to determine the precision of P94-02. The method describes both analytical and direct measurement techniques that determine the NVG-weighted transmissivity (\tilde{T}_{NVG}) of transparent pieces including ones that are large, curved, or held at the installed position. This ILS investigated just the analytical method since only one lab is presently capable of implementing the direct test method. T_{NVG} is the integrated value (450 through 950 nm) of the spectral transmissivity of a transparent part weighted (multiplied) by both the spectral sensitivity of a given set of NVGs and the light source, divided by the integrated value of the NVGs times the light source. The higher the T_{NVG} the more compatible a transparency is with NVGs, i.e., there is more light energy available to be amplified by the goggles which usually corresponds to better visual acuity performance of the observer (finer detail seen).

3. TEST PROGRAM INSTRUCTIONS AND TEST METHOD

The cover letter for test instructions to participating labs, follows.

SUBJECT: Interlaboratory Study for ASTM Standard P94-02: Standard Test Method for Measuring Night Vision Goggle-Weighted Transmissivity of Transparent Materials.

FROM: AL/CFHV

2255 H Street, Room 300

Wright-Patterson AFB OH 45433-7022

Dear Colleague,

Please find enclosed the instructions and materials needed by you to conduct spectral transmissivity measurements as discussed at the April 8th, 1997 ASTM Task Force committee meeting in St. Louis. The test has been simplified by the elimination of the Excel spread sheet. I am now simply supplying four (4) plastic samples. The spectral transmissivity scan data are then returned to me for completion of the data

analysis of which the details are described in the attached draft test method [P94-02, see Appendix B]. You may retain the draft for your use and records.

The data collection procedure is as follows:

(1) Please handle the samples carefully as to not cause any (further) damage.

(2) Do not clean them with any solvents. Use part specific, prescribed cleaning materials and methods.

(3) Spectral measurements are made from 450 nanometers (nm) through 950 nm in 5 nm incremental steps, with the arrow on top and pointed towards the spectrophotometer's sensor.

(4) Perform sample measurements sequentially, i.e., measure #1, #2, #3, #4.

(5) Repeat Step (4), five times, per instrument, yielding 20 sets of spectral data.

Thus, the test sequence for the samples is:

Measure samples [#1, #2, #3, #4]

Repeat [#1, #2, #3, #4]

Repeat [#1, #2, #3, #4] Repeat [#1, #2, #3, #4] Repeat [#1, #2, #3, #4]

(6) Repeat this process on more than one instrument, if available (instruments are statistically analyzed as "labs" and I need as many "labs" as possible).

(7) Label each spectral printout with:

Sample # and repetition #

Instrument make and model #

Date and time of the measurement

- (8) These measurements can be made over a period of days, if desired. The variability in the data due to an extended measurement period will more accurately reflect real-world conditions (i.e., variability due to temperature, positioning, drift, etc.).
- (9) Since these test samples need to be sent to several labs, please complete all measurements within two weeks of receipt and return data and samples to the address, above, so I can forward the samples to the next company.

Sincerely,

Alan Pinkus, PhD Research Psychologist

6 Attachments:

- 1. Cover Letter
- 2. Plastic Sample #1
- 3. Plastic Sample #2
- 4. Plastic Sample #3
- 5. Plastic Sample #4
- 6. Draft Test Method P94-02

4. LIST OF PARTICIPATING LABORATORIES

There were six labs (instrument types).

Lab #1: EG&G Radoma GS1252 Spectraphotometer (15 May 1997) Air Force Research Lab/HECV (formally Armstrong Lab/CFHV) 2255 H Street, Room 300

Wright-Patterson AFB OH 45433-7022 POC: Alan Pinkus (937-255-8767)

Lab #2: Cary 5G Spectraphotometer (16 Jun 1997) Air Force Research Lab (formally Armstrong Lab/OEO) 8111 18th Street Brooks AFB TX 78235-5215 POC: Dennis Maier (210 536-3709)

Lab #3: Perkin Elmer Lambda 9 Spectraphotometer (16 Jun 1997) Air Force Research Lab (formally Armstrong Lab/OEO) 8111 18th Street Brooks AFB TX 78235-5215 POC: Dennis Maier (210 536-3709)

Lab #4: Hitachi U-2000 (2 Jul 1997) Polycast, Inc. 70 Carlisle Pl Stamford CT 06902 POC: Kuang Tran (203-327-6010

Lab #5: Model 736 Radiometer (21 Jul 1997) Texstar, Inc. 1170 108th Street PO Box 534036 Grand Prairie TX 75053-4036 POC: Lance Teten (214-647-1366)

Lab #6: UV/VIS/NIR (8 Sep 1997) Sierracin/Sylmar Corp. 12780 San Fernando Rd Sylmar CA 91342 POC: John Raffo (818-362-6711)

5. DATA REPORTS

See Appendix C

6. STATISTICAL DATA SUMMARY

The four test stimuli were 2 inch square samples of transparent plastic material: #1, 0.875 inches thick acrylic, #2 laminated (F-111), #3 gold-coated (F-16) and #4, 3 mm acrylic. Samples #2 and #3 were cut from actual aircraft windscreens. The main source of error in the test method is due to the variability among spectraradiometric (spectraphotmetric) instruments not the T_{NVG} calculation.

Absolute radiometric calibration of the instrument is not essential since T_{NVG} is a ratio. In this ILS, the six instruments were treated as labs. The samples were measured using spectraradiometric instruments but the actual calculation of T_{NVG} (in accordance with test method P94-02) was performed later, prior to data analysis. T_{NVG} equals the integral with respect to wavelength, of the transparent part's spectral transmissivity $[P(\lambda)]$ times the spectral energy distribution of the light source $[S(\lambda)]$ times the NVG spectral sensitivity $[G(\lambda)]$ divided by the integral with respect to wavelength, of the spectral energy distribution of the light source times the NVG spectral sensitivity. Since the specific spectral energy distribution of the light source in Equation 1 is typically not known for operational conditions (it depends on the spectral energy distribution of the illumination source on the scene and the spectral reflectivity of the various objects in the scene) the NVG-weighted transmission coefficient was calculated using $S(\lambda) = 1$ for all wavelengths. This simplifies the equation and typically does not significantly affect the results for the vast majority of broad-band reflectance distributions normally encountered. (Pinkus and Task, 1997; Equation 1 in Appendix A). Just the analytical method section of P94-02 was studied since only one lab (Air Force Research Lab/WPAFB/HECV, formally the Armstrong Lab) has the capability to perform the other, direct method. An ILS for the direct method may be performed at a later date. Tables 1 through 4 summarize the ILS results.

Tables 1 through 4. Results summary of four plastic samples (thick acrylic, laminated, gold-coated and 3 mm acrylic), measured by 6 labs (instruments) 5 times each: T_{NVG} means (\bar{x}) , standard deviations (s), cell deviations (d), h and k statistics, grand mean (GM), repeatability (S_r), standard deviation of cell averages ($S_{\bar{x}}$), as defined in ASTM Practice E 691.

Table 1									1.92	1.75
#1 (THICK)	RE	PS								
LABS	1	2	3	4	5	\overline{X}	S	d	h	k
EG&G	0.895	0.888	0.897	0.899	0.877	0.891	0.009	-0.012	-0.987	0.846
CARY 5G	0.904	0.903	0.899	0.904	0.903	0.903	0.002	-0.001	-0.072	0.173
PERK/ELM L9	0.901	0.898	0.894	0.896	0.890	0.896	0.004	-0.008	-0.634	0.378
	• • • • • • • • • • • • • • • • • • • •									
HIT U-2000	0.902	0.902	0.902	0.903	0.902	0.902	0.000	-0.001	-0.085	0.015
736 RADIOM.	0.936	0.924	0.926	0.921	0.926	0.927	0.006	0.023	1.897	0.532
UV/VIS/NIR	0.902	0.903	0.901	0.904	0.900	0.902	0.001	-0.001	-0.119	0.120

Table 2

#2 (LAM)	RE	PS								
LABS	1	2	3	4	5	\overline{X}	s	d	h	k
EG&G	0.853	0.850	0.861	0.859	0.860	0.857	0.005	-0.010	-0.816	0.432
CARY 5G	0.868	0.866	0.867	0.862	0.864	0.865	0.002	-0.001	-0.114	0.202
PERK/ELM L9	0.867	0.864	0.858	0.862	0.857	0.861	0.004	-0.006	-0.439	0.382
HIT U-2000	0.869	0.868	0.865	0.870	0.858	0.866	0.005	-0.001	-0.080	0.462
736 RADIOM.	0.897	0.897	0.881	0.888	0.895	0.892	0.007	0.025	1.964	0.646
UV/VIS/NIR	0.863	0.860	0.862	0.859	0.859	0.860	0.002	-0.006	-0.514	0.168

Table 3

#3 (GOLD)	RE	PS								
LABS	1	2	3	4	5	\overline{X}	S	d	h	k
EG&G	0.533	0.539	0.540	0.541	0.527	0.536	0.006	-0.007	-0.844	0.789
CARY 5G	0.547	0.547	0.546	0.546	0.547	0.547	0.001	0.003	0.375	0.067
PERK/ELM L9	0.541	0.541	0.535	0.535	0.532	0.537	0.004	-0.006	-0.762	0.520
HIT U-2000	0.541	0.541	0.541	0.543	0.542	0.542	0.001	-0.002	-0.201	0.117
736 RADIOM.	0.561	0.557	0.563	0.550	0.564	0.559	0.006	0.016	1.834	0.777
UV/VIS/NIR	0.539	0.543	0.541	0.538	0.540	0.540	0.002	-0.003	-0.402	0.259

Τ	'a	b	le	:	4

Table 4										
#4 (3mm)	RE	PS								
LABS	1	2	3	4	5	\overline{X}	S	d	h	k
EG&G	0.878	0.878	0.880	0.886	0.877	0.880	0.004	0.002	0.300	0.583
CARY 5G	0.879	0.881	0.879	0.878	0.877	0.879	0.001	0.001	0.096	0.218
PERK/ELM L9	0.878	0.875	0.871	0.873	0.865	0.872	0.005	-0.006	-0.869	0.781
HIT U-2000	0.881	0.876	0.879	0.879	0.881	0.879	0.002	0.001	0.181	0.313
736 RADIOM.	0.897	0.884	0.891	0.879	0.890	0.888	0.007	0.010	1.573	1.133
UV/VIS/NIR	0.869	0.872	0.870	0.869	0.870	0.870	0.001	-0.008	-1.280	0.209

The critical values of the h and k statistics, used to determine outliers (ASTM Practice E 691, Table 12, p. 14, where p=6 and n=5), are 1.92 and 1.75, respectively. Only one lab (Table 2, sample #2, 736 Radiometer) exceeded the critical h (bolded) at 1.964. The data were reexamined for typographical errors but none were found. The prescribed method was followed so the data were retained for final analysis. Table 5 summarizes the repeatability (S_r) and reproducibility (S_R) values and Table 6 summarizes the 95% repeatability (r) limits and the 95% reproducibility (R) limits for the individual samples as well as the means.

Table 5. Repeatability (S_r) and reproducibility (S_R) values in T_{NVG} , derived from the data sets in Appendix C.

`	REPEATABILITY (S,) WITHIN LABS	REPRODUCIBILITY (S _R) BETWEEN LABS
SAMPLE #1	0.011	0.015
SAMPLE #2	0.011	0.016
SAMPLE #3	0.007	0.011
SAMPLE #4	0.006	0.008
MEAN	0.009	0.013

Table 6. 95% repeatability (r) limits and 95% reproducibility (R) limits in T_{NVG} .

	95% r LIMITS WITHIN LABS	95% R LIMITS BETWEEN LABS
SAMPLE #1	0.030	0.043
SAMPLE #2	0.030	0.044
SAMPLE #3	0.021	0.030
SAMPLE #4	0.017	0.023
MEAN	0.025	0.035

 S_r ranged from 0.006 to 0.011 T_{NVG} S_R ranged from 0.008 to 0.016 T_{NVG}

r ranged from 0.017 to 0.030 T_{NVG} R ranged from 0.023 to 0.044 T_{NVG}

Since the accuracy of the measurements should not and did not depend upon the type of the transparent material, it is logical to calculate a mean T_{NVG} of the 4 sample sizes to derive the composite precision values indicative of this method.

The composite (mean) repeatability (S_r) and reproducibility (S_R) values:

Mean
$$S_{r} = 0.009 T_{NVG}$$

Mean $S_{R} = 0.013 T_{NVG}$

The composite (mean) 95% limits for repeatability (r) and 95% limits for reproducibility (R) values:

Mean
$$r = 0.025 T_{NVG}$$

Mean $R = 0.035 T_{NVG}$

Note: The 95% limits were calculated using the formulae, below. Since the 95% limits are based on the difference between two test results, the $\sqrt{2}$ factor was incorporated into the calculation (ASTM Practice E 177; 27.3.3).

r = 95% repeatability limit (within laboratories) $S_r =$ repeatability standard deviation

$$r = 1.960*\sqrt{2}*S_r$$

R = 95% reproducibility limit (between laboratories) $S_R =$ reproducibility standard deviation

$$R = 1.960*\sqrt{2}*S_R$$

7. RESEARCH REPORT SUMMARY

Precision: An interlaboratory study was conducted to determine the precision of ASTM P94-02 (draft), Standard Test Method for Measuring Night Vision Goggle-Weighted Transmissivity of Transparent Materials. Six labs (instruments) were used to measure four plastic samples, five times each. Statistical analysis (ASTM Standard Practices E 691 and E 177) revealed that the method's mean repeatability (S_r) was 0.009 T_{NVG} and the mean reproducibility (S_R) was 0.013 T_{NVG} . The mean 95% limits for repeatability (r) was 0.025 T_{NVG} and the mean 95% limits for reproducibility (R) was 0.035 T_{NVG} .

Bias: The procedure in this test method has no bias because the NVG-weighted transmissivity is defined only in terms of the test method.

8. REFERENCES

F 1316-90 Standard Test Method for Measuring the Transmissivity of Transparent Parts. *Annual Book of ASTM Standards*, Vol. 08.01. Mar 1991.

D 1003-61 Standard Test Method for Haze and Luminous Transmittance of Transparent Parts. *Annual Book of ASTM Standards*, Vol. 15.09. Sep 1961.

- Pinkus, A. and Task, H. L. (1997). The Effects of Aircraft Transparencies on Night Vision Goggle-Mediated Visual Acuity. SAFE Symposium 1997, Sep 8-10, pp. 93-104.
- ASTM Standard Practice E 691. Conducting an Interlaboratory Study to Determine the Precision of a Test Method.
- ASTM Standard Practice E 177. Use of the Terms Precision and Bias in ASTM Test Methods.

APPENDIX A. Pinkus, A. and Task, H. L. (1997). The Effects of Aircraft Transparencies on Night Vision Goggle-Mediated Visual Acuity. *SAFE Symposium 1997*, Sep 8-10, pp. 93-104.

THE EFFECTS OF AIRCRAFT TRANSPARENCIES ON NIGHTVISIONGOGGLE-MEDIATEDVISUALACUITY

Alan Pinkus, PhD and H. Lee Task, PhD
Armstrong Laboratory
Crew Systems Directorate
Human Engineering Division
Wright-Patterson AFB OH

ABSTRACT

Night vision goggles (NVGs) are currently used in a wide variety of military aircraft that were not originally designed for NVGs. Likewise, the windscreens and canopies on these aircraft were not designed with NVGs Present day windscreens and in mind. canopies typically have one or more specialized coatings applied to them. These may be reasonably transparent for visible wavelengths but not so transparent for near infrared light to which the NVGs are sensitive. It was hypothesized that the major mechanism by which aircraft transparencies affect the operation of NVGs is through reduced light levels. This would mean that the key characteristic of interest for determining the effect of an aircraft transparency on the operation of the NVGs would be its transmission coefficient calculated using the spectral sensitivity of the NVGs. This hypothesis was tested by investigating visual acuity performance of trained observers viewing through NVGs for three levels of ambient illumination (1, 2 and

5 times starlight) and three levels of NVGweighted windscreen transmissivities (58, 76 and 100%). In addition, two levels of contrast were included in the study (20 and 70% modulation contrast). Three trained observers determined the orientation of a Landolt C using a two-alternative, forcedchoice step paradigm. A luminance-based model was developed to smoothly combine the effects of illumination level transmission level for each contrast thus supporting the hypothesis. In addition, the results demonstrate the significant difference between individual observer's performance level and the increased difficulty (higher variability) of performance at lower contrast levels.

INTRODUCTION AND BACKGROUND

Night vision gogglesprovide observers with the ability to see very dimly illuminated nighttime scenes by amplifying ambient light from the red and near infrared spectral energy region (600 through 950 nm; see Fig. 1). Anything that reduces the light level getting to the NVGs will tend to reduce the

output luminance while at the same time decreasing the signal-to-noise ratio. This, in turn, tends to reduce the visual acuity of observers using the NVGs. These effects are most apparent at very low ambient light such as starlight illumination levels conditions. The basic hypothesis of this study is that it should not matter whether the light level is reduced by lowering the illumination level on the target area or by attenuating the light level getting to the NVGs by viewing through a transparency. This leads to the concept of equivalent illumination. For purposes of this study, equivalent illumination is the product of the

actual illumination level and the transmission coefficient of the transparency through which one is viewing. As a specific example, the equivalent illumination for 2 times starlight actual illumination viewing through a 50% transmitting windscreen would be 1.0 starlight (2 times 0.5). This is the same equivalent illumination obtained for an actual illumination of 1 times starlight viewing through the NVGs with no intervening If the transparency (1 times 1.0). hypothesis is correct one would expect the visual acuity for these two conditions to be essentially the same (within the variability expected for human observations).

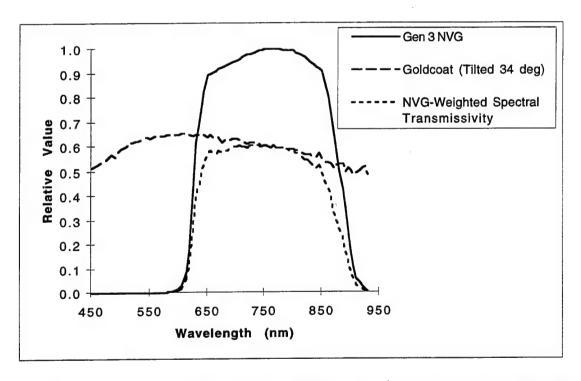


Figure 1. The relative value of a third-generation NVG, a gold-coated transparent sample (34 deg tilt) and its corresponding NVG-weighted spectral transmissivity plotted as a function of wavelength.

In order to determine how much an aircraft windscreen or canopy will reduce the light level by, it is necessary to measure or calculate the NVG-weighted transmission coefficient (T_{NVG}) . This is done by using the spectral sensitivity of a given NVG^{1,2,3}. Equation 1 describes the calculation for NVG-weighted transmissivity. T_{NVG} equals the integral with respect to wavelength, of spectral transparent part's the transmissivity $[P(\lambda)]$ times the spectral energy distribution of the light source $[S(\lambda)]$ times the NVG spectral sensitivity $[G(\lambda)]$ divided by the integral with respect to spectral wavelength, of the energy distribution of the light source times the NVG spectral sensitivity. Since the specific spectral energy distribution of the light source in Equation 1 is typically not known for operational conditions (it depends on the spectral energy distribution of the illumination source on the scene and the spectral reflectivity of the various objects in the scene) the NVG-weighted transmission coefficient was calculated using $S(\lambda) = 1$ for all wavelengths. This simplifies the equation and typically does not significantly affect the results for the vast majority of broadband reflectance distributions normally encountered. Figure 1 shows the spectral transmissivity curve for one of the goldcoated samples used in this study. The third-generation NVG sensitivity curve is plotted for reference.

$$T_{NVG} = \frac{\int\limits_{450\,nm}^{950\,nm} P(\lambda)S(\lambda)G(\lambda)d\lambda}{\int\limits_{450\,nm}^{550\,nm} S(\lambda)G(\lambda)d\lambda}$$
(1)

where:

 T_{NVG} = NVG-weighted transmissivity

 $P(\lambda)$ = spectraradiometric scan through the transparent part

 $S(\lambda)$ = spectral energy distribution of the light source (equal to 1 for our calculations)

 $G(\lambda)$ = spectral sensitivity of the nightvisiongoggle

Undocumented reports from some aircrew in different aircraft indicated that transparencies, such as gold-coated F-16 canopies, may cause a reduction in NVG visual acuity compared to uncoated transparencies. Investigation into the NVGweighted transmission level of currently fielded F-16 canopies revealed that there are at least three different gold coatings and two different indium-tin-oxide coatings in use. It was therefore the objective of this study to investigate the effect of coated transparent parts that included the full range of NVGweighted transmission coefficients that might be found in the field. Since we could not obtain samples of all of the different types of coated windscreens it was decided to use what samples we did have in such a way as to provide a fairly wide range of transmissivities. Two gold-coated sections of transparencies were available: one with a

fairly light coating and one with a relatively heavy coating. In order to expand the range even further, viewing through the heavilycoated sample was done at a tilted angle which made the transmission coefficient even smaller.

METHOD

Participants

The three participants in this study were not naive subjects in the traditional sense but highly trained psychophysical observers, two males and one female, ranging in ages from 35 to 46 years.

Apparatus and Stimuli

The tests utilized a new set of ITT Model F4949D (serial #3873) NVGs⁴ that had P-43 phosphor image intensifier tubes and a measured gain⁵ of about 6000. With the room lights off and the NVGs on, the observer first adjusted the interpupilary distance of the goggles. Then they adjusted the eyepiece lenses by looking at the dark ceiling with the goggles and focusing until the scintillation looked sharp. Objective lenses were focused by viewing a one-half moon illuminated, NVG resolution chart composed of square-wave gratings⁶.

All observations were made in a lighttight room. The observer sat in a chair behind a table with their eyes 9.14 m (30 ft) from the stimulus easel. On the table was a fixture that held an aircraft transparency sample and a foam board visual field mask which had a 15 cm high by 18 cm wide (6 by 7 in.)

aperture. The observer held the NVGs but could rest his or her elbows on the table while looking through the hole and transparency at the stimulus. The goggles were powered using a regulated external power supply.

The stimuli were Landolt C's⁷ printed using a high resolution photo-grade laser printer. All of the C's (in each set) were consecutively numbered 1 through n for ease of use with the computer program (see Procedure section) during the study. After the observers' data were the study. converted to Snellen equivalents. The high contrast (70% Michelson) set consisted of 69 C's ranging from 20/19.1 to 20/200.5 Snellen acuity for the 9.14 m viewing distance. C's 1 through 48 increased by about 2 minutes-of-arc (MOA) per step and C's 49 through 69 increased in about 2 to 4 MOA steps in order to insure a high upper range. The low contrast (20% Michelson) set consisted of 107 C's ranging from 20/19.1 to 20/236.8 Snellen acuity. For this set, C's 1 through 92 increased by about 2 MOA per step and C's 93 through 107 increased in about 2 to 4 MOA steps. The first stimulus presentation, as determined by the program, was always from the center of the set's range and all subsequent thresholds were found to be below this value.

The C's were mounted on 18 x 18 cm (7 x 7 in.) foam board. The letter and background were different gray levels, varied to achieve the two desired contrasts but maintain the same average reflectance. For presentation,

the C was placed onto a larger surround board 61 x 61 cm (24 x 24 in.) that matched either the high or low contrast Landolt C background reflectance as appropriate. The background board was held on an easel and had a small ledge that held the letter C in the center. The ledge was invisible when viewed through NVGs. The C was then easily placed onto the ledge with the gap oriented either up or down.

The experimenter's station was to the side of the stimulus easel. The computer's electroluminescent, backlighted liquid-crystal display was filtered and shrouded to eliminate any stray light from falling on the target pattern.

Three, precalibrated, 2856K incandescent lamps⁸ were used to easily change to the different illumination levels. Apertures varied their intensity without affecting the color temperature. Illumination levels used were: 1x starlight = $3.4x10^{-4}$ lx $(3.2x10^{-5}$ fc)⁹; 2x starlight = $6.7x10^{-4}$ lx $(6.2x10^{-5}$ fc); 5x starlight = $1.8x10^{-3}$ lx $(1.7x10^{-4}$ fc). A fourth lamp, set to about one-half moon illumination $1.3x10^{-1}$ lx $(1.2x10^{-2}$ fc) was used to illuminate an NVG resolution target⁶ during pretest goggle focusing.

Three transmission conditions were included in this study: a tilted heavily gold-coated

sample, a non-tilted lightly coated sample, and no intervening transparency (100% transmission, hereafter termed baseline or high T_{NVG}). The T_{NVG} for the heavily goldcoated sample tilted to a 34 deg orientation was 58% (hereafter termed low T_{NVG}). The untilted (normal) lightly gold-coated sample had 76% transmissivity (hereafter termed This study used three medium T_{NVG}). combinations of stimulus different illumination, with three different levels of T_{NVG} coefficient to achieve nine total levels of equivalent illumination. Table summarizes the nine equivalent illumination levels derived from the different illumination and T_{NVG} coefficient combinations.

Testing was conducted within randomized blocks of the lighting conditions because the observer had to adapt to that level before the First, an illumination source was randomly selected. Within that lighting level, the observer was tested with a randomized order of stimulus contrasts and Two levels of transparency samples. contrast (20 and 70%), three levels of illumination and three levels of T_{NVG} yielded nine experimental conditions for high contrast letters and nine experimental The visual conditions for low contrast. acuity through the NVGs for trained observers was measured as a function of these nine equivalent illumination levels.

Table 1. The nine different equivalent illumination levels produced by all combinations of the three levels of stimulus illumination and three levels of transparency T_{NVG} coefficients.

MULTIPLES OF STARLIGHT	LOW T_{NVG} coefficient $T_{NVG} = 58\%$	MEDIUM T_{NVG} coefficient $T_{NVG} = 76\%$	HIGH T_{NVG} coefficient $T_{NVG} = 100 \%$
1x	0.58	0.76	. 1
2x	1.16	1.52	2
5x	2.9	3.8	5

Procedure

A portable computer executed a twoalternative, forced-choice Step Program adapted from Simpson¹⁰. The experimenter started the Step Program which asked for the initial setup parameters: Landolt C upper and lower stimulus identification numbers (1 through 69 for high contrast or 1 through 107 for low contrast), confidence level (95%), number to criterion (5), maximum total number of trials (50) and a data file name. Using a conservative 95% confidence level caused the program to require a few more trials before converging to threshold.

The proper stimulus surround was placed onto the easel, a 1x, 2x or 5x starlight lamp was energized and the transparency sample placed into the fixture. The observer then partially dark adapted to the goggle output luminance for about 10 minutes. The Step Program instructed the experimenter to place a given numbered (size) Landolt C in an up or down, randomized position. The stimulus was blocked from the observer's view by the experimenter during placement onto the easel. The experimenter asked the observer if he or she was ready, unblocked the stimulus for about 4 seconds, then

blocked it again. The observer had to respond either "up" or "down". No feedback was ever given to the observer. The experimenter then removed the stimulus and entered the observer's response into the Step Program. Based on the response, the Step Program determined the next stimulus size and randomized its orientation. procedure was repeated until criterion was reached or the maximum number of trials were met. All observers converged before reaching the maximum number of trials. This procedure averaged about 10 minutes per experimental condition with five minute rests after each condition and additional rest after completion of each lighting condition.

RESULTS

The study presented a total of 1015 stimuli to the three observers. Threshold criterion (5 correct responses at smallest, reliably seen gap size) was reached in 19 trials on the average, 10 being the fastest and 38 the slowest (see Fig. 2 for an example). Snellen acuity, which served as the dependent variable, was calculated from the viewing distance and the gap size of the Landolt C with the standard conversion that 20/20

Snellen acuity corresponds to a gap size of one minute of arc. Table 2 is a summary of the results for the high contrast Landolt C condition listing the Snellen acuity for each illumination/transparency combination for each trained observer and the average across observers. The equivalent illumination column is the fraction of starlight that was

available to illuminate the target pattern after accounting for the transmission coefficient of the transparency. This value was calculated by multiplying the illumination level (1, 2, or 5 times starlight) by the transmission coefficient (0.58, 0.76, or 1.00) for each condition. Table 3 is a summary of the results for the low contrast condition.

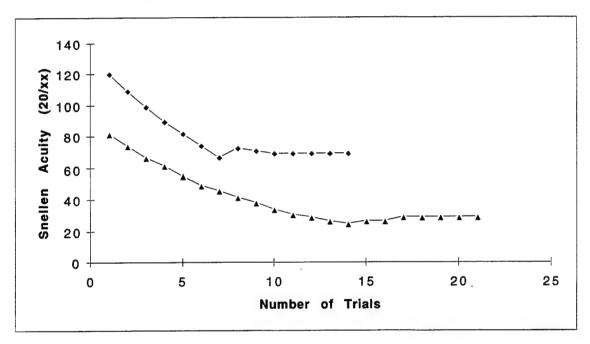


Figure 2. Typical Landolt C presentation sequences using the computer-based Step Program.

Table 2. Summary of high contrast (70%) stimuli data. All data are Snellen acuities (20/xx).

ILLUMINATION	T_{NVG}	EQUIV	OBSERVER	OBSERVER	OBSERVER	MEAN
(X STARLIGHT)	COEFFICIENT	ILLUM	1	2	3	
1x	LOW	0.58	66.8	63.0	61.1	63.6
1x	MEDIUM	0.76	61.1	59.2	49.7	56.7
1x	HIGH	1	53.5	51.6	47.7	50.9
2x	LOW	1.16	51.6	57.3	47.7	52.2
2x	MEDIUM	1.52	49.7	47.7	43.9	47.1
2x	HIGH	2	45.8	43.9	36.3	42.0
5x	LOW	2.9	36.3	40.1	36.3	37.6
5x	MEDIUM	3.8	36.3	32.5	34.4	34.4
5x	HIGH	5	36.3	32.5	34.4	34.4

Table 3. Summar	y of low contrast	(20%)) stimuli data.	All data are Snellen acuities (2	.0/xx).
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ILLUMINATION (X STARLIGHT)	T _{NVG} COEFFICIENT	EQUIV ILLUM	OBSERVER 1	OBSERVER 2	OBSERVER 3	MEAN
1x	LOW	0.58	114.6	103.1	149.0	122.2
1x	MEDIUM	0.76	128.0	105.0	126.1	119.7
1x	HIGH	1	108.9	99.3	107.0	105.1
2x	LOW	1.16	114.6	84.0	122.2	106.9
2x	MEDIUM	1.52	112.7	108.9	82.1	101.2
2x	HIGH	2	105.0	99.3	70.7	91.7
5x	LOW	2.9	101.2	93.6	74.5	89.8
5x	MEDIUM	3.8	68.8	87.9	68.8	75.2
5x	HIGH	5	47.7	74.5	61.1	61.1

DISCUSSION

Although none of the combination of conditions (illumination and transmission coefficient) permitted a direct test of the equivalent illumination hypothesis, it was possible to graph the Snellen acuity results against the equivalent illumination to see if it would produce a reasonably smooth, monotonically decreasing curve. This is the type of curve that would be expected since, in general, visual acuity improves (Snellen acuity value is smaller) as light level to the eye increases¹¹. Figures 3 and 4 show these graphs for the high contrast and low contrast conditions, respectively.

The graphs of Figures 3 and 4 include all of the individual observer data in addition to a dashed line that corresponds to the average for the three observers for each equivalent illumination condition. The high contrast graph of Figure 3 demonstrates a very clear pattern, although it is apparent that there is a certain amount of observer variability and differences between observers. Based on visual inspection of the graph in Figure 3, a curve fit was applied using a simple reciprocal model. The general form of the model equation was:

$$S = K + \frac{M}{E} \tag{2}$$

where:

S = Snellen acuity (20/xx)

K = constant (empirically determined by least squares fit)

M = proportionality constant (empirically determined)

E = equivalentillumination

Table 4 is a summary of the model fit (Equation 2) for both the high contrast and low contrast Landolt C. The model is shown in Figures 3 and 4 as a solid line. The model fits reasonably well for the high contrast condition (r = 0.981) and not too badly for the low contrast condition (r = 0.912) given that human observations are involved. It should be noted that this fit was done for a relatively small range of illuminations (0.58 to 5.0 times starlight) and

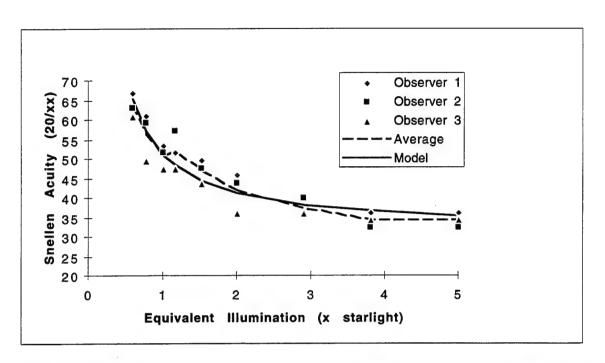


Figure 3. Plot of Snellen acuity as a function of starlight illumination for high contrast Landolt C stimuli (data from Table 2).

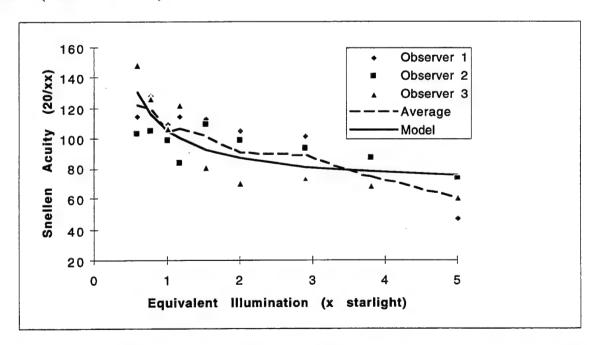


Figure 4. Plot of Snellen acuity as a function of starlight illumination for low contrast Landolt C stimuli (data from Table 3).

is therefore only valid for this range. It is possible the basic model (Equation 2) may still hold up for a greater range of illuminations but that has not yet been tested.

Table 4. Summary of model fit to data.

CONDITION	K	M	CORR (r)
70% CONTRAST	31.6	19.6	0.981
20% CONTRAST	70.0	35.3	0.912

The results shown in Figures 3 and 4 and the correlations in Table 4 support the validity of the hypothesis regarding using equivalent illumination and the T_{NVG} as a means of assessing the quality of aircraft transparencies with respect to NVGs. It is possible to use Equation 2 with the appropriate coefficients from Table 4 to reasonably predict the impact on visual acuity of a specific windscreen or canopy if its T_{NVG} value is known.

There is, however, an implicit assumption that must be addressed before applying the model presented herein. These results and the model presented assumes the transparency has a very low haze value¹². Haze is a phenomenon caused by light scattering from materials within the transparency or from micro-scratches on the surface of the transparency (usually due to repeated cleaning). The effect of haze is to lower the contrast of objects viewed through the transparency which, in turn, would reduce visual performance (Snellen acuity). The implicit assumption was that the transparencies employed in this study had very little or no haze. The two transparencies used in this study were measured¹³ and were found to have fairly low values of haze; 1.7% for the medium transmission and 2.4% for the low transmission transparency samples. If haze is present, then the model needs to be modified to include the loss in visual acuity due to contrast reduction. If haze is not present, then the contrast of objects viewed through a transparency remains the same no matter what the transmission coefficient is; only the apparent luminance of the object is affected. Future work in this area will address the haze issue.

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BIOGRAPHIES

ALAN PINKUS has been an Air Force psychologist since 1982. As a human factors engineer, he has worked on major systems including Royal Saudi Air Force KE-3 tanker, Gunship 2, LANTIRN, Air Force One and Joint-Stars. As a researcher, he has worked in the areas of image display metrics, night vision goggles, apparent motion, aircraft lighting,

transparency analysis, vision from space, workload assessment and has lectured for NATO AGARD in Europe. Alan has a BS Degree (Wright State, 1974), an MA (University of Dayton, 1980) and a PhD (Miami University, 1992), all in Experimental Psychology. He holds seven patents (or pending) in the area of night vision goggle ancillary devices and has over 20 publications. He is a member of the Human Factors and Ergonomics Society (Southern Ohio Chapter), SAFE, Association of Aviation Psychologists and is active in the American Society for Testing and Materials Subcommittee F7.08 on Aerospace Transparencies.

H. LEE TASK has been employed as a research scientist for the US Air Force since 1971. He has served as chief scientist for the Armstrong Aerospace Medical Research Laboratory (prior to its reorganization and disestablishment in 1991) and is presently a senior scientist at the Visual Display Systems Branch of the Human Engineering Division, in the Armstrong Laboratory's Crew Systems Directorate, at Wright-Patterson AFB, Ohio. He is currently involved in research and development in the areas of helmetmounted displays, vision through night vision goggles, optical characteristics of aircraft windscreens, vision, and display systems. He has a BS Degree in Physics (Ohio University), MS degrees in Solid State Physics (Purdue, 1971), Optical Sciences (University of Arizona, 1978), and Management of Technology (MIT, 1985) and a PhD in Optical Sciences from the University of Arizona Optical Sciences Center (1978). During his career he has earned 36 patents and has published more than 75 journal articles, proceedings papers, technical reports, and other technical publications. He is a member of the Human Factors and Ergonomics Society (HFES), the American Society for Testing and Materials (where he is chairman of Subcommittee F7.08 on Aerospace Transparencies and is a Fellow of the Society), the Association of Aviation Psychologists, SAFE association, the Society for Information Display (SID), and SPIE (the optical engineering society). He has served as reviewer for papers in SAFE, SID, and HFES.

REVISED DRAFT (Dec 16, 97)

P94-02 Standard Test Method for Measuring the Night Vision Goggle-Weighted Transmissivity of Transparent Parts¹

INTRODUCTION

Test Methods D 1003-61 and F 1316-90 (see Refs. 2.1.1 and 2.1.2) apply to the transmissivity measurement of transparent materials, the former being for small flat samples and the later for larger, curved pieces such as aircraft transparencies. Additionally, in D 1003-61, the transmissivity is measured perpendicular to the surface of test sample and both test methods measure only in the visible light spectral region. Night vision goggles (NVGs) are being used in aircraft and other applications (e.g., marine navigation, driving) with increasing frequency. These devices amplify both visible and near-infrared (NIR) spectral energy. Overall visual performance can be degraded if the observer uses the NVGs while looking through a transparency that has poor transmissivity in the NIR region. This method describes both direct and analytical measurement techniques that determine the NVG-weighted transmissivity of transparent pieces including ones that are large, curved, or held at the installed position.

1. Scope

1.1 This test method describes apparatuses and procedures that are suitable for measuring the NVG-weighted transmissivity of transparent parts including those which are large, thick, curved, or already installed. This test method is sensitive to transparencies that vary in transmissivity as a function of wavelength.

1.2 Since the transmissivity (or transmission coefficient) is a ratio of two radiance values, it has no units. The units of radiance recorded in the intermediate steps of this test method are not critical; any recognized units of radiance (e.g., watts/m²-str) may be used,

as long as it is consistent (see Ref. 2.2.1).

1.3 This standard does not purport to address the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Referenced Documents

2.1 ASTM Standards:

2.1.1 D 1003-61 Standard Test Method for Haze and Luminous Transmittance of Transparent Parts. Annual Book of ASTM Standards, Vol. 15.09. Sep 1961.

2.1.2 F 1316-90 Standard Test Method for Measuring the Transmissivity of Transparent Parts. Annual Book of ASTM Standards, Vol. 08.01. Mar 1991.

2.2 Published Documents:

¹ This test method is under the jurisdiction of ASTM Committee F-7 on Aerospace and Aircraft and is the direct responsibility of Subcommittee F07.08 on Transparent Enclosures and Materials.

2.2.1 RCA Electro-Optics Handbook. (1974). Lanchaster PA: RCAlSolid State Division|Electro Optics and Devices. Technical Series EOH-11.

2.2.2 Wyszecki, Gunter. and Stiles, W. S. (1982). Color Science: Concepts and Methods, Quantitative Data and Formulae (Second Edition). New York: John Wiley and Sons

3. Terminology

3.1 Definitions:

3.1.1 Analytical test method - the test method that uses spectral transmissivity data of a transparent part collected by the use of either spectraphotometric or spectraradiometric instrumentation. The data are then examined using analytic methods to determine the

NVG-weighted transmissivity of the part.

3.1.2 Direct test method - the test method that uses the actual luminous output, as measured by a photometer, properly coupled to the eyepiece of the test NVG. The NVG-weighted transmissivity of the part is then determined by forming the ratio of the NVG output luminance with the transparent part in place to the luminance output without the part.

3.1.3. NVG-weighted spectral transmissivity - the spectral transmissivity of a

transparent part multiplied by the spectral sensitivity of a given NVG (see Fig. 1).

3.1.4 NVG-weighted transmissivity (T_{NVG}) - the spectral transmissivity of a transparent part multiplied by the spectral sensitivity of a given NVG integrated with respect to wavelength (see Fig. 1, Equations 1 and 2).

3.1.5 NVG spectral sensitivity - the sensitivity of an NVG as a function of input

wavelength.

3.1.6 photometer - a device that measures luminous intensity or brightness by converting (weighting) the radiant intensity of an object using the relative sensitivity of the human visual system as defined by the photopic curve. (see Refs. 2.2.1 and 2.2.2)

3.1.7 Photopic curve - the photopic curve is the spectral sensitivity of the human eye for daytime conditions as defined by the Commission Internationale d'Eclairage (CIE)

1931 standard observer (see Refs. 2.2.1 and 2.2.2).

3.1.8 transmission coefficient - same as transmissivity.

3.1.9 *transmissivity* - the transmissivity of a transparent medium is the ratio of the luminance of an object measured through the medium to the luminance of the same object measured directly.

4. Summary of Test Methods

4.1 General Test Conditions: The test can be performed in any light-controlled area (e.g., light-tight room, darkened hangar, or outside at night away from strong light sources). The ambient illumination must be very low due to the extreme sensitivity of the NVGs. A fixture holds the NVG and its objective lens is aimed at and focused on a target. The target can be either an evenly illuminated white, diffusely reflecting surface or a transilluminated screen (lightbox). The illumination is provided by a white, incandescent light source. Handle the samples carefully as to not cause any damage. Do not clean them with any solvents. Use part specific, prescribed cleaning materials and methods.

4.1.1 Direct Test Method: Attached directly to the eyepiece of the NVG is a photodetector. It has been found that the measured field of view (FOV) should be smaller than the uniformly illuminated portion of the target. The target illumination is adjusted so that the output of the NVGs is about 1.7 cd/m^2 (0.5 fL). This assures that the NVG input is not saturated; the automatic gain control (AGC) is not active. The luminance output of the NVG is measured and then repeated with the transparent material in place. The transmissivity is equal to the NVG output luminance with the transparent material in place divided by the NVG output luminance without the material (see Section 10.1, Equation 1). The result is the NVG-weighted transmissivity (T_{NVG}) of the transparent material.

4.1.2 Analytical test method: Without the sample in place, measure the light source's spectral energy distribution from 450 nanometers (nm) through 950 nm in 5 nm

incremental steps. Place the sample into the spectrophotometer or spectraradiometer fixture. Perform spectral measurements, also from 450 nm through 950 nm in 5 nm incremental steps. Obtain, from the NVG manufacturer, the spectral sensitivity of the goggle that will be used in conjunction with the part. Perform analytic method as defined in Section 10.2 by Equation 2, to derive the T_{NVG} .

5. Significance and Use

- 5.1 Significance This test method provides a means to measure the compatibility of a given transparency through which NVGs are used at night to view outside, nighttime ambient illuminated natural scenes.
- 5.2 Use This test method may be used on any transparent part including sample coupons. It is primarily intended for use on large, curved, or thick parts that may already be installed (e.g., windscreens on aircraft).

6. Apparatus:

6.1 Test Environment - This test method can be performed in any light-controlled area (e.g., light-tight room, darkened hangar, or outside at night away from strong light sources) since the NVGs are extremely sensitive to both visible and near infrared light. Extraneous light sources (e.g., exit signs, telephone pole lights, status indicator lights on equipment, etc.) can also interfere with the measurement.

6.2 White Diffuse Target - The white target can be any uniformly diffusely reflecting or translucent material (e.g., cloth; flat white painted surface; plastic). The target area should be either smaller (see Figure 2) or larger (see Figure 3) than the NVG FOV

(35-60 degrees typical) in order to minimize potential alignment errors.

- 6.3 Light Source The light source should be regulated to ensure that it does not change luminance during the reading period. It should be a low output, 2856 Kelvin incandescent light since this type emits sufficient energy in both visible and infrared without any sharp emission peaks or voids (see Ref. 2.2.1). Its output must be uniformly distributed over the measurement area of the white diffuse target. Use of neutral density filters or varying the lamp distance may be needed to achieve sufficiently low luminance levels to be obtained for test, since varying the radiator's output would shift its color temperature.
- 6.4 Night Vision Goggles A family of passive image intensifying devices that utilize visible and near-infrared light and enable the user to see objects that are illuminated by full moonlight through starlight only conditions. The goggle that is used for test should be the same as that which will be used with the given transparent material (see Appendix B).
- 6.5 *Photometer* Any calibrated photometer may be used for this measurement. However, the detector must be properly coupled to the NVG eyepiece and the FOV over which the light is integrated must be known (see Appendix A).

7. Test Specimen

7.1 If necessary, clean the part to be measured using the procedure prescribed for the specific material. Use of nonstandard cleaning methods can irrevocably damage the part. No special conditions other than cleaning are required.

8. Calibration and Standardization

8.1 It is not necessary that the photometer be calibrated in absolute luminance units since the measurement involves the division of two measured quantities yielding a dimensionless value. A generic photodector can be substituted for the photometer if its FOV is known.

9. Procedure

9.1 General Procedures: All measurements are performed in a darkened, light-controlled area. In order to control the effects of reflection, verify that there are no extraneous light sources that can produce reflections within the measurement area of the transparent material. To control the effects of haze, verify that no light other than the

measurement light, falls on the area being tested.

9.2 Direct test method: This method allows analysis of large or small transparent parts placed at either normal (perpendicular to the optical axis) or installed orientations, such as an aircraft windscreen. Figure 2 illustrates the use of a small, transilluminated lightbox. Figure 3 depicts the use of a large, front-illuminated, white, diffusely reflective target, illuminated as uniformly as possible using a regulated white incandescent light source. The size of the target is dependent upon the test location, the obtainable luminance uniformity, and the FOV of the photodetector assembly. In the field, a transilluminated lightbox is probably the easiest to setup and use as it offers the advantage of compact, selfcontained portability. It is important to maintain the same target to NVG distance during the measurements. In a light-tight room, a white, diffusely reflecting, front-illuminated surface may be utilized. In the field, the NVG can be held by hand and under laboratory conditions, can be mounted in a sturdy fixture. It is then aimed at and focused on the white target. The photodetector is attached to the NVG eyepiece. With the transparent material removed from the measurement path, the variable white light is adjusted to produce an NVG output luminance of about 1.7 cd/m² (0.5 fL). This insures that the NVG's input is not saturated; the AGC is not activated. Due to the extreme sensitivity of NVGs, neutral density filters may need to be placed in front of the light source in order to obtain low enough target luminance. After recording the NVG's output luminance, the transparent material is placed in the measurement path. If the material is a sample, its orientation relative to the measurement path can be simply perpendicular or at the installed angle. If an aircraft transparency is being tested, the NVG should be located at the design eye position relative to the transparency which is mounted in its installed position. Measuring at the installed angle is critical since many materials exhibit variations in transmissivity as a function of angle. The NVG's output, with the test piece in place, is then recorded. In order to prevent damage to the NVGs, verify that they are turned off before the test area lights are turned on.

There are numerous classes of NVGs (generations 2, 3; types A, B) that vary in their spectral sensitivity, intensified FOV, resolution, etc. It is important to select the proper NVG type that will be used in a given application. The NVG must also be in good

working condition and meet minimum user performance specifications.

The target illumination source can be an incandescent operating at 2856 Kelvin which is the standard color temperature that is used for many NVG test procedures. The illumination from this source can be varied using neutral density filters since varying the light's voltage would cause a corresponding color temperature shift. If the NVG is to be used to view an area, through a specific transparent material, that is illuminated by a different kind of light source (e.g., mercury vapor; sodium) then that source must be properly noted in the test report.

The luminance output of the NVG is measured and then repeated with the transparent material in place. The transmissivity is equal to the NVG output luminance with the transparent material in place divided by the NVG output luminance without the material (see Section 10.1, Equation 1). The result is the NVG-weighted transmissivity

 (T_{NVG}) of the transparent material.

9.3 Analytical test method: If using a spectrophotometer, the sample is usually limited to about two by two inch sample coupons held in a normal position. In general (but depending on the model) a spectraradiometer can be used to measure large or small parts at normal or installed positions. With the sample removed, measure the light source's spectral energy distribution from 450 nanometers (nm) through 950 nm in 5 nm incremental steps. Place the sample into the spectrophotometer or spectraradiometer

fixture. Perform spectral measurements, also from 450 nm through 950 nm in 5 nm incremental steps. Obtain, from the NVG manufacturer, the spectral sensitivity of the goggle type (in 5 nm increments) that will be used in conjunction with the transparent part. Perform analytic method as defined in Section 10.2 by Equation 2, to derive the T_{NVG} .

10. T_{NVG} Calculation
10.1 Direct test method calculation: When using a photodetector attached to the NVG eveniece, the calculation is described by Equation 1. The transmissivity is equal to the NVG output luminance with the transparent material in place (L_T) divided by the NVG output luminance without the material (L_R) . The result is the NVG-weighted transmissivity (T_{NVG}) of the transparent material.

$$T_{NVG} = \frac{L_T}{L_R} \tag{1}$$

where:

 T_{NVG} = NVG-weighted transmissivity

= NVG output luminance with the transparent material in place

= NVG output luminance without the transparent material

10.2 Analytical test method: Figure 1 is an example of the elements of the T_{NVG} calculation. When substituting a spectraradiometer (see Appendix A) for the NVG and photodetector assemblies (see Figures 2 and 3), the calculation is described by Equation 2. For Equation 2, T_{NVG} equals the integral with respect to wavelength, of the transparent part's spectral transmissivity $[P(\lambda)]$ times the spectral energy distribution of the light source $[S(\lambda)]$ times the NVG spectral sensitivity $[G(\lambda)]$ divided by the integral with respect to wavelength, of the spectral energy distribution of the light source times the NVG spectral sensitivity.

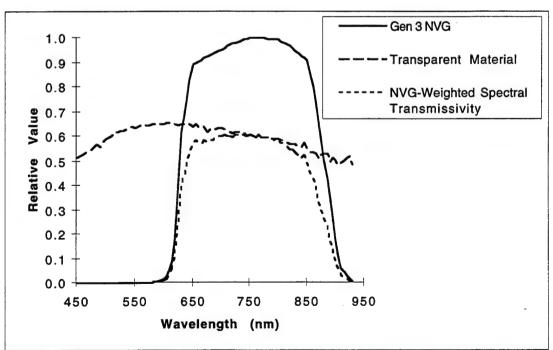


Figure 1. An example of how the spectral sensitivity of a Generation 3 NVG multiplied by the spectral transmissivity of a transparent part equals the NVG-weighted spectral transmissivity of that part. Integrating the curve with respect to wavelength yields the part's NVG-weighted transmissivity (T_{NVG}) value.

$$T_{NVG} = \frac{\int\limits_{450}^{950} P(\lambda)S(\lambda)G(\lambda)d\lambda}{\int\limits_{450}^{950} S(\lambda)G(\lambda)d\lambda}$$
(2)

where:

 T_{NVG} = NVG-weighted transmissivity

 $P(\lambda)$ = spectral energy distribution of the light source $G(\lambda)$ = spectral sensitivity of night vision goggle

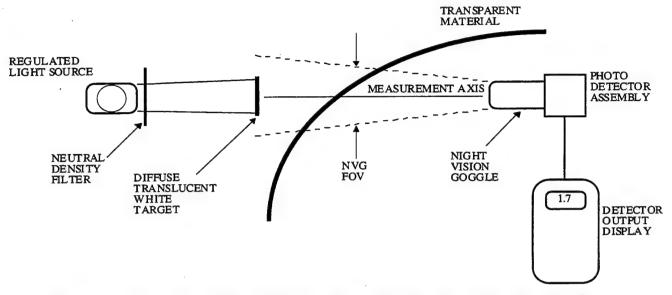


Figure 2. Direct test method equipment setup to measure the night vision goggle-weighted transmissivity of a transparent part using a transilluminated lightbox that underfills the NVG FOV.

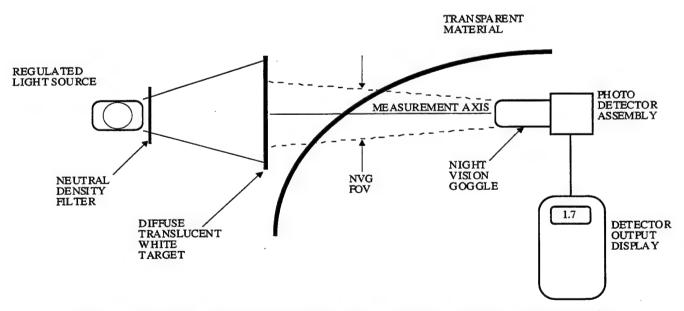


Figure 3. Direct test method equipment setup to measure the night vision goggle-weighted transmissivity of a transparent part using a transilluminated lightbox that overfills the NVG FOV.

11. Precision and Bias

11.1 An interlaboratory study (ASTM RR XXXX) was conducted to determine the precision of ASTM P94-02, Standard Test Method for Measuring Night Vision Goggle-Weighted Transmissivity of Transparent Materials. Six labs (instruments) were used to measure four plastic samples, five times each. The statistical summaries are shown in Tables 1 and 2.

Table 1. Repeatability (S_r) and reproducibility (S_R) values in T_{NVG} , derived from the data sets in Appendix C.

	REPEATABILITY (S,) WITHIN LABS	REPRODUCIBILITY (S_R) BETWEEN LABS
SAMPLE #1	0.011	0.015
SAMPLE #2	0.011	0.016
SAMPLE #3	0.007	0.011
SAMPLE #4	0.006	0.008
MEAN	0.009	0.013

Table 2. 95% repeatability (r) limits and 95% reproducibility (R) limits in T_{NVG} .

	95% r LIMITS WITHIN LABS	95% R LIMITS BETWEEN LABS
SAMPLE #1	0.030	0.043
SAMPLE #2	0.030	0.044
SAMPLE #3	0.021	0.030
SAMPLE #4	0.017	0.023
MEAN	0.025	0.035

 S_r ranged from 0.006 to 0.011 T_{NVG} $S_{\rm p}$ ranged from 0.008 to 0.016 $T_{\rm NVG}$

r ranged from 0.017 to 0.030 T_{NVG}

R ranged from 0.023 to 0.044 T_{NVG} 11.1.1 Since the accuracy of the measurements should not and did not depend upon the type of the transparent material, it is logical to calculate a mean T_{NVG} of the 4 sample sizes to derive the composite precision values indicative of this method. In summary, the statistical analysis (ASTM Standard Practices E 691 and E 177) revealed that the method's mean repeatability (S_r) was 0.009 T_{NVG} and the mean reproducibility (S_R) was 0.013 T_{NVG} . The mean 95% limits for repeatability (r) was 0.025 T_{NVG} and the mean 95% limits for reproducibility (R) was $0.035 T_{NVG}$.

11.1.2 The 95% limits were calculated using the formulae, below. Since the 95% limits are based on the difference between two test results, the $\sqrt{2}$ factor was incorporated into the calculation (ASTM Practice E 177; 27.3.3). For r = 95% repeatability limit (within laboratories) and S_r = repeatability standard deviation.

$$r = 1.960*\sqrt{2}*S_r$$

For R = 95% reproducibility limit (between laboratories) and $S_R =$ reproducibility standard deviation.

$$R = 1.960*\sqrt{2}*S_R$$

11.2 The procedure in this test method has no bias because the NVG-weighted transmissivity is defined only in terms of the test method.

12. Appendix A

12.1 Major suppliers of photometers:

International Light Inc., Newburyport MA

Labsphere, North Sutton NH

Minolta Corp.

Photo Research, Chatsworth CA

12.2 Major photometric light source manufacturers:

Acton Research Corp., Acton MA

DBA Systems Inc., Melbourne FL

Electro Optical Industries Inc., Santa Barbara CA

Graseby Infrared, Orlando FL

Hoffman Engineering Corp., Stamford CT

Labsphere Inc., North Sutton NH

Optronic Laboratories Inc., Orlando FL.

Oriel Corp., Strattford CT

Pyrometrics Corp., Millington NJ.

12.3 Major manufacturers of night vision goggles:

ITT, Roanoke VA

Litton, Phoenix AZ

APPENDIX C. Data reports: spectral transmissivity as a function of wavelength, 450 nm through 950 nm in 5 nm increments.

4	EG&G KADOMA SPECTKAKADIOMETEK - AKMSTKONG LAB (HECV)	SPECTRARADI	OMETER - AKM	STRONG LAB	(necv)
			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.870	0.869	0.879	0.885	0.826
455	0.871	0.861	0.877	0.877	0.824
460	0.868	0.867	0.882	0.880	0.828
465	0.878	098.0	0.889	0.886	0.840
470	0.880	0.872	0.884	0.886	0.826
475	0.873	0.870	0.884	0.884	0.835
480	0.886	0.867	0.883	0.881	0.827
485	0.872	0.876	0.879	0.883	0.826
490	0.883	9/8/0	0.890	0.886	0.829
495	0.875	0.875	0.886	0.880	0.830
200	0.884	0.876	0.888	0.886	0.832
505	0.880	0.877	0.887	0.891	0.833
510	0.880	0.879	0.882	0.891	0.823
515	0.885	0.878	0.886	0.889	0.829
520	0.879	0.876	0.891	0.885	0.835
525	0.878	0.881	0.890	0.890	0.839
530	0.881	0.879	0.888	0.892	0.831
535	0.887	0.876	0.889	0.889	0.831
540	0.885	0.878	0.891	0.888	0.829
545	0.886	0.879	0.891	0.895	0.827
550	0.885	0.878	0.891	0.890	0.816
555	0.885	0.878	0.891	0.894	0.818
260	0.886	0.877	0.890	0.891	0.827
595	0.884	0.880	0.893	0.892	0.822
570	0.887	0.881	0.893	0.894	0.822
575	0.887	0.878	0.892	0.894	0.816
280	0.889	0.879	0.893	0.895	0.822
585	0.888	0.884	0.889	0.893	0.819
290	0.888	0.883	0.892	968.0	0.826
595	0.890	0.884	0.893	0.896	0.823
009	0.890	0.886	0.894	0.895	0.824
909	0.891	0.885	0.892	0.893	0.830
610	0.890	0.884	0.894	0.895	0.835
212	080	0.885	808 U	0000	0.931

	(
			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.895	0.886	968.0	0.901	0.838
625	0.890	0.890	0.900	0.899	0.834
630	0.895	0.888	0.901	0.899	0.835
635	0.895	0.889	0.904	0.900	0.830
640	0.897	0.893	0.905	0.905	0.838
645	0.898	0.892	0.904	0.903	0.842
650	0.899	0.895	906.0	906.0	0.843
655	0.900	0.895	0.903	906.0	0.847
099	0.899	0.895	0.908	0.908	0.856
999	968.0	968.0	0.905	606.0	0.859
029	0.900	0.891	0.900	0.904	0.856
675	0.905	0.894	0.910	0.901	0.865
089	0.902	0.892	0.902	0.902	0.864
685	0.903	968.0	0.903	0.904	0.862
069	0.895	0.897	0.910	0.901	0.868
969	0.903	0.895	0.905	0.913	0.867
700	0.901	0.899	0.907	0.907	0.875
705	0.905	0.899	0.905	0.908	0.875
710	0.903	0.895	0.905	0.910	0.877
715	0.899	0.899	0.904	0.907	0.883
720	0.897	0.892	0.902	0.901	0.882
725	0.896	0.885	0.897	0.903	0.875
730	0.894	0.888	0.894	0.897	0.879
735	0.892	0.889	0.897	868.0	0.875
740	0.898	0.892	0.896	0.903	0.878
745	0.903	0.892	0.904	0.904	0.879
750	0.901	968.0	0.905	0.906	0.885
755	0.903	0.897	0.910	0.907	0.883
092	906'0	0.897	0.908	0.907	0.878
765	0.904	0.900	0.908	0.911	0.885
770	0.905	968.0	0.907	0.908	0.894
775	0.904	0.897	0.904	0.910	0.894
780	0.907	0.900	0.905	906.0	0.889
702	0000	m000			

			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
06 <i>L</i>	0.903	0.898	0.907	0.909	0.882
795	0.903	968.0	0.904	0.904	0.881
800	0.904	0.893	0.899	0.905	0.894
805	0.901	0.897	0.907	0.904	0.886
810	0.904	0.891	0.903	0.900	0.900
815	0.904	0.895	0.903	0.909	0.896
820	0.908	0.895	0.905	0.908	0.895
825	0.905	0.899	0.903	0.910	0.898
830	0.905	0.897	0.905	606.0	0.903
835	0.902	0.902	0.898	0.904	0.900
840	0.899	0.898	0.903	0.899	0.906
845	0.899	0.890	0.902	906.0	0.894
850	0.897	0.887	0.896	0.902	0.885
855	0.886	0.882	0.891	0.895	0.888
098	0.888	0.877	0.882	0.888	0.888
865	0.871	0.863	0.875	0.876	0.870
870	0.859	0.856	0.866	0.873	0.879
875	0.852	0.838	0.849	0.853	0.878
880	0.823	0.812	0.826	0.826	0.882
885	0.797	0.787	0.798	0.805	0.875
068	0.785	0.772	0.792	0.784	0.882
895	0.776	0.775	0.783	0.782	0.878
006	0.793	0.788	0.790	0.803	0.871
905	0.815	0.804	0.808	0.809	0.873
910	0.832	0.835	0.834	0.845	0.865
915	0.852	0.841	0.853	0.871	0.883
920	698.0	0.865	0.882	0.881	0.886
925	0.869	0.879	0.889	0.885	0.882
930	0.879	0.885	0.879	0.883	0.890
935	0.890	0.881	906.0	0.887	0.868
940	0.880	0.885	0.893	0.912	0.898
945	0.867	0.892	0.902	0.903	0.894
950	0.872	0.879	0.892	0.890	0.845

<u>5</u>	AKY SG SFECT	KAPHOLOMET	CARY 5G SPECTRAPHOTOMETER - BROOKS, AFB (AL/OEO)	AFB (AL/OEO)	
			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.886	0.885	0.883	0.885	0.884
455	0.887	0.887	0.885	0.887	0.887
460	0.890	0.888	0.887	0.888	0.889
465	0.891	0.889	0.888	0.890	0.890
470	0.892	0.891	0.889	0.892	0.891
475	0.894	0.892	0.890	0.894	0.893
480	0.894	0.892	0.892	0.895	0.894
485	968.0	0.895	0.892	0.895	0.895
490	968.0	0.895	0.893	968.0	0.895
495	0.897	0.895	0.894	968.0	0.896
200	0.897	968.0	0.894	968.0	0.896
505	0.898	0.897	0.894	0.898	0.896
210	0.899	0.898	0.896	0.899	0.897
515	0.899	0.897	0.897	0.900	0.898
520	0.899	0.898	0.897	0.899	0.898
525	0.900	0.897	968.0	0.900	0.898
530	0.900	0.898	0.897	0.900	0.899
535	0.900	0.899	968.0	0.899	0.899
540	0.899	0.899	0.897	0.900	0.898
545	0.900	0.899	968.0	0.899	0.899
550	0.901	0.899	0.897	0.900	0.899
555	0.901	668.0	0.897	0.900	0.899
260	0.901	0.900	0.898	0.902	0.900
565	0.902	0.901	0.898	0.901	0.901
570	0.901	0.900	0.898	0.901	0.900
575	0.903	0.901	0.899	0.902	0.901
280	0.904	0.901	0.898	0.902	0.901
585	0.903	0.901	0.900	0.902	0.902
590	0.902	0.902	0.900	0.903	0.902
595	0.904	0.902	0.899	0.903	0.902
009	0.904	0.903	0.901	0.904	0.904
605	0.905	0.904	0.901	0.905	0.903
610	906.0	0.904	0.902	0.905	0.904
519	0.907	0.904	0.902	906.0	906.0

wavelength Rep. 2 Rep. 3 Rep. 4 Rep	2	ARY 5G SPECT	RAPHOTOMET	CARY 5G SPECTRAPHOTOMETER - BROOKS, AFB (AL/OEO)	AFB (AL/OEO)	
Rep. 1 Rep. 2 Rep. 3 Rep. 4 1 (trans.)			SA	MPLE 1		
(trans.) (trans.)	wavelength	Rep. 1			Rep. 4	Rep. 5
0,907 0,906 0,903 0,907 0,907 0,907 0,903 0,907 0,909 0,908 0,908 0,908 0,910 0,908 0,907 0,910 0,910 0,910 0,908 0,913 0,912 0,913 0,913 0,913 0,913 0,912 0,908 0,913 0,913 0,913 0,910 0,913 0,913 0,913 0,910 0,913 0,913 0,913 0,910 0,913 0,913 0,913 0,910 0,913 0,914 0,911 0,914 0,914 0,915 0,914 0,911 0,915 0,915 0,914 0,911 0,915 0,915 0,914 0,911 0,915 0,915 0,914 0,914 0,914 0,915 0,914 0,914 0,915 0,915 0,912 0,909 0,914 0,912 0,	(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.907 0.903 0.907 0.909 0.908 0.904 0.908 0.910 0.908 0.904 0.901 0.911 0.912 0.913 0.913 0.912 0.913 0.913 0.913 0.913 0.912 0.908 0.913 0.913 0.913 0.910 0.913 0.913 0.913 0.910 0.913 0.913 0.913 0.910 0.913 0.914 0.913 0.910 0.913 0.915 0.913 0.910 0.913 0.916 0.913 0.911 0.914 0.915 0.914 0.911 0.915 0.916 0.911 0.915 0.915 0.917 0.911 0.915 0.914 0.918 0.911 0.912 0.913 0.918 0.910 0.902 0.913 0.920 0.920 0.920 0.920 0.920 0.920 0.	620	0.907	0.906	0.903	0.907	0.906
0.909 0.908 0.904 0.908 0.910 0.908 0.905 0.910 0.911 0.907 0.913 0.913 0.912 0.913 0.912 0.913 0.913 0.912 0.908 0.913 0.913 0.913 0.914 0.913 0.913 0.913 0.913 0.913 0.913 0.913 0.913 0.913 0.914 0.914 0.914 0.914 0.915 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.913 0.903 0.914 0.916 0.911 0.904 0.904 0.902 0.	625	0.907	0.907	0.903	0.907	0.907
0.910 0.908 0.905 0.910 0.910 0.910 0.907 0.911 0.912 0.912 0.913 0.913 0.912 0.912 0.913 0.912 0.913 0.913 0.913 0.914 0.913 0.910 0.913 0.913 0.910 0.913 0.913 0.910 0.913 0.914 0.914 0.914 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.913 0.909 0.914 0.916 0.911 0.912 0.914 0.917 0.912 0.909 0.912 0.902 0.903 0.904 0.901 0.903 0.904 0.904 0.902<	089	606.0	0.908	0.904	0.908	0.908
0.910 0.910 0.901 0.911 0.912 0.911 0.908 0.913 0.913 0.912 0.908 0.913 0.913 0.912 0.910 0.913 0.913 0.913 0.913 0.913 0.913 0.913 0.914 0.915 0.915 0.913 0.916 0.915 0.915 0.913 0.910 0.915 0.916 0.913 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.914 0.914 0.915 0.912 0.909 0.914 0.916 0.901 0.905 0.901 0.902 0.903 0.904 0.901 0.903 0.904 0.903 0.905 0.906 0.	635	0.910	0.908	0.905	0.910	0.909
0.912 0.911 0.908 0.913 0.913 0.912 0.908 0.912 0.913 0.912 0.910 0.913 0.913 0.910 0.913 0.913 0.913 0.910 0.913 0.913 0.915 0.913 0.910 0.914 0.915 0.913 0.910 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.912 0.904 0.914 0.912 0.904 0.905 0.905 0.903 0.904 0.905 0.905 0.903 0.904 0.905 0.906 0.904 0.905 0.906 0.906 0.905 0.	040	0.910	0.910	0.907	0.911	0.911
0.913 0.912 0.908 0.912 0.913 0.912 0.910 0.914 0.913 0.913 0.910 0.913 0.914 0.913 0.910 0.913 0.915 0.913 0.913 0.913 0.915 0.913 0.918 0.914 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.916 0.911 0.912 0.914 0.917 0.914 0.914 0.914 0.907 0.907 0.901 0.914 0.908 0.909 0.914 0.901 0.909 0.901 0.902 0.901 0.909 0.901 0.902 0.901 0.901 0.	645	0.912	0.911	0.908	0.913	0.911
0.913 0.912 0.910 0.914 0.913 0.913 0.910 0.913 0.914 0.913 0.910 0.913 0.915 0.913 0.910 0.913 0.915 0.913 0.910 0.914 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.913 0.909 0.914 0.916 0.914 0.909 0.914 0.907 0.901 0.909 0.901 0.902 0.901 0.902 0.901 0.903 0.904 0.904 0.904 0.904 0.904 0.904 0.904 0.905 0.	029	0.913	0.912	0.908	0.912	0.912
0.913 0.913 0.910 0.913 0.913 0.913 0.910 0.913 0.915 0.913 0.910 0.913 0.915 0.913 0.911 0.914 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.916 0.910 0.909 0.914 0.902 0.901 0.909 0.914 0.903 0.904 0.904 0.904 0.903 0.904 0.904 0.904 0.903 0.904 0.904 0.904 0.904 0.905 0.904 0.904 0.905 0.	929	0.913	0.912	0.910	0.914	0.912
0.913 0.913 0.913 0.913 0.915 0.913 0.908 0.915 0.915 0.913 0.914 0.914 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.915 0.912 0.909 0.914 0.912 0.910 0.901 0.901 0.912 0.909 0.914 0.901 0.903 0.904 0.905 0.906 0.903 0.904 0.906 0.906 0.903 0.904 0.906 0.906 0.903 0.904 0.906 0.907 0.904 0.905 0.906 0.907 0.901 0.	099	0.913	0.913	0.910	0.913	0.912
0.915 0.913 0.908 0.915 0.915 0.913 0.911 0.914 0.916 0.914 0.910 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.916 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.915 0.912 0.909 0.914 0.916 0.910 0.909 0.911 0.902 0.901 0.904 0.905 0.903 0.904 0.905 0.901 0.904 0.905 0.904 0.908 0.907 0.907 0.908 0.908 0.907 0.907 0.908 0.908 0.908 0.909 0.908 0.908 0.901 0.908 0.908 0.908 0.911 0.	599	0.913	0.913	0.910	0.913	0.913
0,915 0,913 0,911 0,914 0,916 0,914 0,910 0,915 0,916 0,914 0,911 0,915 0,914 0,911 0,915 0,915 0,914 0,911 0,915 0,915 0,914 0,911 0,915 0,915 0,913 0,909 0,914 0,915 0,913 0,909 0,914 0,915 0,912 0,909 0,914 0,912 0,909 0,901 0,901 0,903 0,904 0,905 0,901 0,903 0,901 0,896 0,902 0,903 0,901 0,896 0,903 0,903 0,904 0,903 0,903 0,904 0,905 0,906 0,908 0,907 0,906 0,907 0,908 0,901 0,906 0,906 0,916 0,911 0,906 0,907 0,917 0,911 0,906 0,	0.09	0.915	0.913	0.908	0.915	0.912
0.916 0.914 0.910 0.915 0.916 0.914 0.911 0.915 0.914 0.914 0.911 0.915 0.915 0.913 0.914 0.915 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.912 0.909 0.914 0.914 0.912 0.909 0.914 0.914 0.912 0.909 0.901 0.901 0.908 0.909 0.901 0.902 0.908 0.909 0.901 0.902 0.907 0.901 0.896 0.901 0.903 0.903 0.903 0.903 0.904 0.904 0.904 0.903 0.907 0.908 0.908 0.908 0.909 0.909 0.908 0.908 0.911 0.910 0.908 0.914 0.911 0.909 0.909 0.911 0.911 0.	675	0.915	0.913	0.911	0.914	0.914
0.916 0.914 0.911 0.915 0.914 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.912 0.912 0.909 0.913 0.908 0.901 0.909 0.901 0.908 0.909 0.901 0.902 0.902 0.903 0.904 0.902 0.903 0.901 0.896 0.901 0.904 0.902 0.902 0.903 0.907 0.903 0.903 0.903 0.907 0.904 0.903 0.903 0.909 0.908 0.909 0.908 0.909 0.909 0.906 0.910 0.911 0.906 0.908 0.912 0.912 0.908 0.912 0.912 0.911 0.909 0.909 0.912 0.911 0.	089	0.916	0.914	0.910	0.915	0.914
0.914 0.914 0.911 0.915 0.915 0.914 0.911 0.915 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.912 0.912 0.909 0.913 0.902 0.912 0.909 0.913 0.908 0.906 0.904 0.909 0.902 0.901 0.904 0.909 0.902 0.901 0.896 0.901 0.903 0.901 0.896 0.902 0.904 0.902 0.903 0.903 0.907 0.903 0.903 0.903 0.909 0.904 0.903 0.908 0.911 0.906 0.916 0.916 0.912 0.906 0.916 0.916 0.913 0.916 0.906 0.917 0.911 0.906 0.907 0.911 0.911 0.906 0.907 0.911 0.911 0.	685	0.916	0.914	0.911	0.915	0.914
0.915 0.914 0.911 0.915 0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.912 0.912 0.909 0.913 0.912 0.912 0.909 0.913 0.908 0.906 0.907 0.901 0.908 0.907 0.909 0.909 0.907 0.901 0.896 0.901 0.907 0.901 0.896 0.902 0.903 0.901 0.899 0.903 0.909 0.908 0.908 0.908 0.909 0.908 0.908 0.910 0.911 0.910 0.908 0.912 0.912 0.908 0.912 0.912 0.912 0.909 0.912 0.912 0.912 0.909 0.912 0.912 0.911 0.909 0.911 0.911 0.911 0.906 0.907 0.911 0.911 0.	069	0.914	0.914	0.911	0.915	0.914
0.915 0.913 0.909 0.914 0.915 0.913 0.909 0.914 0.912 0.912 0.909 0.913 0.908 0.912 0.909 0.911 0.908 0.906 0.909 0.901 0.908 0.901 0.906 0.905 0.902 0.901 0.897 0.902 0.903 0.901 0.897 0.903 0.903 0.901 0.899 0.903 0.904 0.908 0.908 0.908 0.909 0.909 0.908 0.910 0.911 0.909 0.912 0.912 0.912 0.909 0.912 0.912 0.913 0.912 0.908 0.914 0.912 0.909 0.912 0.912 0.911 0.909 0.912 0.912 0.911 0.909 0.911 0.911 0.911 0.906 0.901 0.911 0.911 0.	969	0.915	0.914	0.911	0.915	0.915
0.915 0.913 0.909 0.914 0.912 0.909 0.913 0.912 0.909 0.911 0.908 0.906 0.904 0.901 0.908 0.901 0.902 0.902 0.902 0.901 0.896 0.901 0.903 0.901 0.897 0.902 0.903 0.901 0.899 0.903 0.904 0.905 0.903 0.908 0.907 0.908 0.908 0.910 0.911 0.910 0.906 0.912 0.912 0.909 0.912 0.912 0.913 0.912 0.909 0.914 0.913 0.912 0.909 0.914 0.912 0.909 0.912 0.912 0.911 0.909 0.912 0.912 0.911 0.909 0.911 0.911 0.911 0.906 0.901 0.911 0.911 0.906 0.901 0.	200	0.915	0.913	0.909	0.914	0.915
0.912 0.912 0.909 0.913 0.912 0.910 0.907 0.911 0.908 0.906 0.904 0.909 0.903 0.903 0.900 0.905 0.902 0.901 0.896 0.901 0.903 0.901 0.897 0.902 0.903 0.901 0.899 0.908 0.904 0.905 0.908 0.908 0.907 0.908 0.908 0.912 0.911 0.910 0.906 0.912 0.913 0.910 0.908 0.914 0.913 0.912 0.909 0.914 0.913 0.912 0.909 0.914 0.911 0.909 0.912 0.912 0.911 0.909 0.901 0.911 0.910 0.901 0.901 0.911 0.910 0.906 0.901 0.911	705	0.915	0.913	0.909	0.914	0.913
0.912 0.910 0.907 0.911 0.908 0.906 0.904 0.909 0.903 0.903 0.900 0.905 0.902 0.901 0.896 0.901 0.903 0.901 0.899 0.902 0.903 0.901 0.899 0.903 0.907 0.908 0.908 0.910 0.911 0.910 0.906 0.912 0.913 0.916 0.906 0.914 0.913 0.912 0.906 0.914 0.913 0.912 0.906 0.914 0.913 0.912 0.906 0.914 0.913 0.912 0.906 0.914 0.911 0.901 0.906 0.912 0.911 0.907 0.911 0.911 0.906 0.901 0.911 0.906 0.911	710	0.912	0.912	0.909	0.913	0.912
0.908 0.906 0.904 0.909 0.903 0.903 0.900 0.905 0.902 0.901 0.896 0.901 0.902 0.901 0.897 0.902 0.903 0.901 0.899 0.903 0.907 0.908 0.908 0.910 0.909 0.908 0.904 0.910 0.911 0.910 0.906 0.912 0.913 0.910 0.908 0.914 0.913 0.912 0.908 0.914 0.913 0.912 0.908 0.914 0.913 0.912 0.908 0.914 0.911 0.901 0.909 0.912 0.911 0.901 0.901 0.912 0.911 0.909 0.901 0.911 0.911 0.906 0.901 0.911	715	0.912	0.910	0.907	0.911	0.911
0.903 0.903 0.906 0.905 0.902 0.901 0.896 0.901 0.902 0.901 0.897 0.902 0.903 0.903 0.903 0.903 0.907 0.908 0.904 0.910 0.911 0.910 0.906 0.912 0.913 0.910 0.908 0.912 0.913 0.912 0.912 0.914 0.913 0.912 0.908 0.914 0.913 0.912 0.909 0.914 0.914 0.901 0.909 0.912 0.911 0.901 0.909 0.912 0.911 0.901 0.901 0.911 0.911 0.901 0.901 0.911 0.911 0.906 0.901 0.911	720	0.908	0.906	0.904	0.909	0.907
0.902 0.901 0.896 0.901 0.902 0.901 0.897 0.902 0.903 0.901 0.899 0.903 0.907 0.908 0.908 0.908 0.909 0.909 0.910 0.911 0.910 0.906 0.912 0.913 0.912 0.912 0.913 0.912 0.914 0.914 0.907 0.912 0.915 0.907 0.912 0.917 0.909 0.914 0.911 0.907 0.912 0.911 0.907 0.911 0.911 0.907 0.911 0.911 0.906 0.911	725	0.903	0.903	0.900	0.905	0.903
0.902 0.901 0.897 0.902 0.903 0.901 0.899 0.903 0.907 0.908 0.908 0.908 0.909 0.909 0.908 0.910 0.911 0.910 0.906 0.912 0.913 0.912 0.908 0.912 0.913 0.912 0.904 0.914 0.912 0.901 0.904 0.914 0.912 0.901 0.912 0.914 0.913 0.911 0.907 0.912 0.910 0.911 0.907 0.911 0.910 0.911 0.906 0.911 0.910 0.911 0.906 0.911	730	0.902	0.901	968.0	0.901	0.902
0.903 0.901 0.899 0.903 0.907 0.905 0.903 0.908 0.909 0.908 0.900 0.910 0.911 0.910 0.906 0.912 0.913 0.912 0.904 0.912 0.913 0.912 0.904 0.914 0.912 0.901 0.912 0.914 0.913 0.911 0.907 0.912 0.911 0.907 0.911 0.911 0.910 0.911 0.906 0.911 0.911 0.906 0.911 0.911	735	0.902	0.901	0.897	0.902	0.901
0.907 0.905 0.903 0.908 0.909 0.908 0.904 0.910 0.911 0.910 0.906 0.912 0.913 0.912 0.908 0.914 0.913 0.912 0.909 0.914 0.912 0.911 0.907 0.912 0.911 0.909 0.911 0.911 0.910 0.911 0.907 0.911 0.910 0.911 0.906 0.911	740	0.903	0.901	0.899	0.903	0.902
0.909 0.908 0.904 0.910 0.911 0.910 0.906 0.912 0.913 0.910 0.908 0.912 0.913 0.912 0.909 0.914 0.912 0.901 0.914 0.911 0.907 0.912 0.910 0.901 0.911 0.911 0.906 0.911 0.911 0.910 0.911	745	0.907	0.905	0.903	0.908	0.906
0.911 0.910 0.906 0.912 0.913 0.910 0.908 0.912 0.913 0.912 0.909 0.914 0.912 0.901 0.907 0.912 0.911 0.907 0.911 0.910 0.911 0.901 0.911 0.906 0.911	750	0.909	0.908	0.904	0.910	0.909
0.911 0.910 0.908 0.912 0.913 0.912 0.909 0.914 0.912 0.911 0.907 0.912 0.911 0.909 0.911 0.910 0.911 0.906 0.911 0.911 0.910 0.906 0.911	755	0.911	0.910	906.0	0.912	0.909
0.913 0.912 0.909 0.914 0.912 0.911 0.907 0.912 0.911 0.909 0.912 0.910 0.911 0.906 0.911 0.910 0.910 0.906 0.911	092	0.911	0.910	0.908	0.912	0.913
0.912 0.911 0.907 0.912 0.911 0.909 0.907 0.911 0.910 0.911 0.906 0.911 0.911 0.910 0.910 0.911	765	0.913	0.912	0.909	0.914	0.912
0.911 0.909 0.907 0.911 0.910 0.911 0.906 0.911 0.911 0.910 0.906 0.911	770	0.912	0.911	0.907	0.912	0.911
0.910 0.911 0.906 0.911 0.911 0.910 0.906 0.911	775	0.911	0.909	0.907	0.911	0.909
0.911 0.910 0.906 0.911	780	0.910	0.911	0.906	0.911	0.910
	785	0.911	0.910	906.0	0.911	0.908

0	CARY 5G SPECTRAPHOTOMETER - BROOKS, AFB (AL/OEO)	RAPHOTOMET	TER - BROOKS,	AFB (AL/OEO)	
		SA	SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.910	0.908	0.904	0.909	0.909
795	0.908	0.908	0.903	0.908	0.909
008	0.909	0.907	0.902	0.907	0.906
805	0.908	0.906	0.903	0.908	0.907
810	0.909	0.905	0.904	0.908	0.907
815	0.908	0.908	0.904	0.909	0.906
820	0.908	0.911	906'0	0.911	0.907
825	606'0	0.910	0.902	0.911	0.910
. 830	0.910	0.910	0.905	0.912	0.908
835	806.0	0.907	0.904	0.910	0.908
840	906'0	906:0	0.904	0.908	0.906
845	0.905	906.0	0.902	0.907	0.906
850	0.904	0.900	0.899	0.903	0.898
855	0.899	0.903	0.897	968.0	0.899
098	0.885	0.890	0.885	0.892	0.887
865	0.883	0.883	0.880	0.883	0.877
870	0.878	0.866	0.865	0.873	0.881
875	0.854	0.854	0.852	0.851	0.853
880	0.837	0.835	0.833	0.835	0.836
885	0.811	0.810	0.808	0.811	0.812
890	0.788	0.787	0.786	0.786	0.787
895	0.775	0.775	0.772	0.775	0.776
006	0.777	0.775	0.772	0.776	0.776
905	0.792	0.791	0.789	0.791	0.791
910	0.815	0.813	0.813	0.814	0.815
915	0.841	0.839	0.836	0.840	0.840
920	0.862	0.860	0.859	0.861	0.861
925	0.876	0.875	0.873	0.874	0.875
930	0.885	0.884	0.883	0.882	0.883
935	0.891	0.890	0.889	0.889	0.890
940	0.895	0.894	0.893	0.893	0.893
945	0.897	0.896	0.893	0.895	0.895
950	0.894	0.892	0.892	0.892	0.891

4	ERKIN ELMER	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	OOKS, AFB (AL	/OEO)	
			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.877	0.873	0.871	0.872	0.867
455	878.0	0.875	0.872	0.873	0.869
460	0.880	0.877	0.874	0.875	0.870
465	0.881	0.878	0.875	0.876	0.872
470	0.882	0.879	0.876	0.877	0.873
475	0.884	0.880	0.878	0.878	0.874
480	0.885	0.881	0.878	0.880	0.875
485	988.0	0.882	0.880	0.880	0.876
490	0.886	0.883	0.880	0.881	0.877
495	0.887	0.884	0.881	0.882	0.877
200	0.888	0.885	0.882	0.883	0.878
202	0.888	0.885	0.882	0.883	0.878
210	688.0	0.886	0.883	0.884	0.879
515	0.890	0.886	0.883	0.884	0.879
520	0.890	0.886	0.883	0.884	0.879
525	0.890	0.887	0.884	0.885	0.880
530	0.890	0.887	0.884	0.885	0.880
535	0.890	0.887	0.884	0.885	0.880
540	0.890	0.887	0.884	0.885	0.880
545	0.891	0.888	0.885	0.886	0.881
550	0.891	0.888	0.885	0.886	0.881
555	0.891	0.888	0.885	0.886	0.882
260	0.892	0.889	0.886	0.886	0.882
595	0.892	0.889	0.886	0.887	0.883
270	0.893	0.890	0.887	0.888	0.883
575	0.893	0.890	0.887	0.888	0.884
580	0.894	0.891	0.888	0.889	0.885
585	0.894	0.891	0.889	0.889	0.885
290	0.895	0.892	0.888	0.890	0.885
595	0.895	0.892	0.889	0.890	0.886
009	0.896	0.893	0.890	0.891	0.887
905	0.897	0.894	0.891	0.891	0.887
019	0.897	0.894	0.892	0.892	0.888
615	0.898	0.895	0.892	0.893	0.889

PE	RKIN ELMER I	AMBDA 9 - I	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	/OEO)	
		9.	SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.899	968.0	0.893	0.894	0.890
625	0.899	0.897	0.894	0.894	0.891
069	0.900	0.898	968'0	968.0	0.892
935	0.901	0.899	0.897	0.897	0.894
040	0.903	0.901	0.898	0.899	0.895
645	0.904	0.902	668.0	0.900	968'0
059	906'0	0.903	0.900	0.901	0.897
559	906'0	0.903	0.901	0.901	0.897
099	906.0	0.904	0.901	0.902	0.898
599	0.907	0.904	0.902	0.902	0.898
029	0.907	0.904	0.902	0.902	0.899
675	0.907	0.905	0.903	0.903	0.899
089	0.907	906.0	0.903	0.903	0.900
989	0.908	906.0	0.903	0.904	0.900
069	0.908	906.0	0.903	0.904	0.901
969	0.909	906.0	0.904	0.904	0.901
200	0.908	0.906	0.903	0.904	0.901
705	0.907	906.0	0.903	0.903	0.900
710	906.0	0.904	0.905	0.902	0.899
715	0.905	0.903		0.901	0.897
720	0.903	0.899	0.897	0.898	0.894
725	0.899	0.896		0.894	0.891
730	0.896	0.894		0.892	0.889
735	968.0	0.894		0.892	0.889
740	0.897	0.896		0.895	0.891
745	0.902	0.900	0.897	0.898	0.894
750	0.904	0.902	0.900	0.901	0.897
755	0.907	0.904	0.902	0.903	0.900
092	0.907	0.906		0.905	0.901
765	0.908	0.907		0.905	0.901
170	0.908	0.906		0.904	0.901
775	0.907	0.906		0.904	0.901
780	0.907	0.905		0.903	0.900
785	0.906	0.904	0.902	0.902	0.899

wavelength Rep. 2 Rep. 3 Rep. 4 Rep. 5 (mm) (trans.) (trans.) (trans.) (trans.) (trans.) (mm) (trans.) (trans.) (trans.) (trans.) (trans.) 790 (0.904 0.903 0.901 0.901 0.889 795 0.904 0.902 0.900 0.899 0.889 800 0.903 0.902 0.900 0.890 0.889 810 0.904 0.902 0.901 0.900 0.889 810 0.904 0.902 0.901 0.890 0.889 820 0.904 0.902 0.901 0.901 0.889 821 0.904 0.902 0.902 0.902 0.902 822 0.904 0.905 0.902 0.902 0.902 823 0.904 0.905 0.902 0.903 0.902 824 0.904 0.905 0.903 0.905 0.902	I I	ERKIN ELMER	LAMBDA 9 - BR	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	(OEO)	
Rep. 1 Rep. 2 Rep. 3 Rep. 4 I (trans.)			SA	MPLE 1		
(trans.) (trans.)	wavelength	Rep. 1				Rep. 5
0.904 0.903 0.901 0.901 0.904 0.902 0.900 0.901 0.903 0.902 0.900 0.901 0.904 0.902 0.900 0.900 0.903 0.902 0.900 0.900 0.904 0.902 0.901 0.902 0.905 0.903 0.903 0.903 0.906 0.905 0.903 0.903 0.907 0.905 0.903 0.903 0.907 0.906 0.903 0.905 0.907 0.906 0.903 0.905 0.907 0.906 0.903 0.905 0.907 0.906 0.903 0.905 0.907 0.906 0.906 0.905 0.907 0.907 0.908 0.905 0.894 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.	(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.904 0.902 0.900 0.901 0.903 0.902 0.899 0.899 0.904 0.902 0.900 0.900 0.904 0.902 0.900 0.900 0.904 0.902 0.901 0.902 0.905 0.903 0.902 0.903 0.905 0.903 0.903 0.903 0.906 0.906 0.903 0.905 0.907 0.906 0.905 0.905 0.907 0.906 0.905 0.905 0.907 0.906 0.905 0.905 0.907 0.908 0.905 0.905 0.908 0.908 0.905 0.905 0.909 0.908 0.905 0.905 0.909 0.908 0.905 0.905 0.809 0.809 0.903 0.905 0.809 0.803 0.803 0.806 0.809 0.803 0.803 0.806 0.809 0.	190	0.904	0.903	0.901	0.901	0.898
0.903 0.902 0.899 0.899 0.904 0.902 0.900 0.900 0.903 0.902 0.900 0.900 0.904 0.902 0.901 0.902 0.905 0.903 0.903 0.903 0.905 0.905 0.903 0.903 0.907 0.906 0.903 0.905 0.907 0.904 0.906 0.905 0.904 0.904 0.906 0.905 0.904 0.904 0.908 0.905 0.904 0.906 0.908 0.905 0.894 0.889 0.889 0.889 0.894 0.889 0.889 0.886 0.884 0.885 0.885 0.886 0.894 0.884 0.886 0.886 0.885 0.883 0.886 0.886 0.884 0.884 0.884 0.886 0.894 0.884 0.884 0.886 0.894 0.	795	0.904	0.905	0.900	0.901	0.897
0.904 0.902 0.900 0.900 0.903 0.902 0.900 0.900 0.904 0.902 0.901 0.902 0.905 0.903 0.901 0.902 0.905 0.905 0.903 0.903 0.907 0.905 0.903 0.905 0.907 0.905 0.905 0.905 0.907 0.906 0.905 0.905 0.907 0.906 0.905 0.905 0.904 0.905 0.905 0.905 0.904 0.906 0.905 0.905 0.904 0.906 0.905 0.905 0.904 0.905 0.905 0.905 0.804 0.806 0.806 0.806 0.804 0.806 0.806 0.806 0.804 0.804 0.804 0.804 0.806 0.804 0.804 0.804 0.804 0.804 0.804 0.804 0.804 0.	008	0.903	0.902	0.899	0.899	0.897
0.903 0.902 0.900 0.900 0.904 0.902 0.901 0.901 0.905 0.903 0.901 0.902 0.905 0.905 0.903 0.903 0.907 0.905 0.905 0.905 0.907 0.906 0.905 0.905 0.907 0.906 0.905 0.905 0.907 0.904 0.906 0.905 0.904 0.906 0.905 0.905 0.907 0.890 0.908 0.905 0.891 0.890 0.889 0.889 0.884 0.885 0.884 0.886 0.884 0.884 0.884 0.886 0.884 0.884 0.884 0.886 0.885 0.784 0.781 0.772 0.793 0.774 0.746 0.775 0.806 0.781 0.784 0.866 0.824 0.824 0.864 0.824 0.804 0.	802	0.904	0.902	0.900	0.900	0.897
0.904 0.902 0.901 0.901 0.905 0.903 0.901 0.902 0.905 0.905 0.903 0.903 0.907 0.906 0.903 0.905 0.907 0.906 0.906 0.905 0.904 0.906 0.906 0.905 0.904 0.906 0.908 0.905 0.904 0.908 0.905 0.905 0.904 0.908 0.905 0.905 0.804 0.809 0.908 0.905 0.804 0.809 0.809 0.809 0.806 0.809 0.809 0.809 0.806 0.803 0.804 0.806 0.807 0.804 0.804 0.806 0.807 0.709 0.709 0.806 0.806 0.807 0.709 0.806 0.806 0.781 0.746 0.746 0.807 0.804 0.804 0.804 0.807 0.	810	0.903	0.902	0.900	0.900	0.897
0.905 0.903 0.901 0.902 0.905 0.905 0.903 0.903 0.907 0.905 0.903 0.905 0.907 0.906 0.905 0.905 0.904 0.906 0.906 0.905 0.904 0.906 0.908 0.905 0.904 0.908 0.905 0.905 0.804 0.809 0.908 0.905 0.804 0.809 0.908 0.905 0.804 0.809 0.809 0.809 0.805 0.809 0.809 0.809 0.806 0.809 0.809 0.809 0.807 0.809 0.809 0.809 0.808 0.804 0.804 0.804 0.806 0.781 0.746 0.746 0.806 0.782 0.746 0.776 0.793 0.746 0.784 0.826 0.806 0.807 0.804 0.803 0.824 0.	815	0.904	0.902	0.901	0.901	0.898
0,905 0,905 0,903 0,903 0,907 0,906 0,905 0,905 0,904 0,906 0,906 0,905 0,904 0,904 0,908 0,905 0,904 0,904 0,908 0,905 0,904 0,904 0,908 0,905 0,894 0,899 0,889 0,889 0,896 0,885 0,889 0,889 0,896 0,887 0,889 0,889 0,896 0,887 0,889 0,889 0,896 0,887 0,884 0,886 0,897 0,843 0,886 0,886 0,897 0,843 0,886 0,886 0,894 0,884 0,886 0,886 0,894 0,784 0,784 0,772 0,895 0,784 0,784 0,876 0,894 0,894 0,885 0,886 0,894 0,884 0,889 0,995 0,895 0,	820	0.905	0.903	0.901	0.902	0.899
0.907 0.905 0.905 0.905 0.905 0.906 0.906 0.905 0.904 0.904 0.908 0.905 0.904 0.908 0.905 0.905 0.901 0.904 0.908 0.905 0.894 0.899 0.889 0.889 0.896 0.885 0.864 0.886 0.884 0.885 0.843 0.866 0.887 0.843 0.866 0.876 0.896 0.875 0.843 0.866 0.870 0.884 0.884 0.886 0.871 0.872 0.781 0.787 0.872 0.784 0.786 0.772 0.793 0.774 0.746 0.776 0.806 0.807 0.781 0.772 0.824 0.824 0.803 0.803 0.825 0.826 0.849 0.849 0.827 0.826 0.849 0.889 0.916 0.	825	0.905	0.905	0.902	0.903	0.899
0.905 0.906 0.905 0.905 0.904 0.906 0.905 0.905 0.904 0.908 0.905 0.905 0.901 0.908 0.905 0.905 0.804 0.899 0.903 0.889 0.889 0.805 0.889 0.889 0.889 0.889 0.806 0.885 0.887 0.886 0.886 0.884 0.885 0.886 0.886 0.886 0.870 0.875 0.886 0.841 0.886 0.871 0.874 0.886 0.787 0.772 0.872 0.774 0.746 0.766 0.772 0.806 0.781 0.781 0.787 0.789 0.824 0.810 0.781 0.826 0.849 0.824 0.834 0.849 0.849 0.849 0.894 0.885 0.885 0.886 0.889 0.916 0.897 0.865 0.889 0.889	830	0.907	0.905	0.903	0.905	0.902
0.904 0.906 0.905 0.904 0.908 0.905 0.904 0.908 0.905 0.901 0.908 0.905 0.894 0.899 0.903 0.889 0.896 0.885 0.889 0.889 0.896 0.885 0.889 0.889 0.896 0.885 0.884 0.886 0.884 0.885 0.843 0.886 0.870 0.843 0.841 0.841 0.843 0.843 0.841 0.772 0.798 0.798 0.774 0.772 0.793 0.774 0.746 0.772 0.806 0.787 0.781 0.803 0.829 0.810 0.781 0.804 0.829 0.826 0.826 0.849 0.834 0.842 0.849 0.849 0.894 0.884 0.884 0.884 0.912 0.891 0.885 0.885 0.916<	835	0.905	906.0	0.905	0.905	0.903
0.904 0.905 0.908 0.905 0.901 0.904 0.908 0.905 0.894 0.899 0.903 0.899 0.891 0.899 0.894 0.899 0.896 0.884 0.887 0.886 0.896 0.875 0.843 0.866 0.870 0.849 0.818 0.841 0.871 0.849 0.818 0.841 0.843 0.849 0.818 0.816 0.843 0.823 0.793 0.787 0.798 0.780 0.746 0.787 0.793 0.774 0.746 0.775 0.804 0.804 0.803 0.772 0.829 0.810 0.781 0.786 0.824 0.826 0.849 0.842 0.804 0.826 0.849 0.842 0.905 0.885 0.865 0.887 0.916 0.891 0.865 0.889 0.917 0.	840	0.904	0.904	906.0	0.905	0.905
0.901 0.904 0.908 0.905 0.894 0.899 0.899 0.899 0.891 0.899 0.899 0.889 0.806 0.885 0.875 0.876 0.806 0.885 0.843 0.856 0.884 0.849 0.818 0.841 0.843 0.823 0.793 0.841 0.843 0.780 0.751 0.787 0.793 0.774 0.751 0.772 0.793 0.774 0.751 0.772 0.805 0.780 0.772 0.772 0.806 0.781 0.782 0.746 0.824 0.826 0.849 0.825 0.826 0.849 0.894 0.874 0.866 0.905 0.885 0.852 0.876 0.912 0.894 0.885 0.885 0.885 0.918 0.894 0.885 0.885 0.886 0.918 0.897 0.	845	0.904	0.905	0.908	0.905	0.907
0.894 0.899 0.903 0.899 0.891 0.894 0.889 0.889 0.896 0.885 0.876 0.876 0.896 0.887 0.866 0.876 0.884 0.884 0.881 0.856 0.870 0.849 0.818 0.841 0.843 0.793 0.772 0.787 0.798 0.774 0.756 0.772 0.799 0.774 0.759 0.772 0.806 0.774 0.746 0.766 0.807 0.815 0.772 0.772 0.807 0.810 0.781 0.766 0.807 0.81 0.766 0.772 0.808 0.81 0.826 0.849 0.854 0.854 0.849 0.849 0.807 0.885 0.852 0.849 0.916 0.894 0.885 0.885 0.916 0.894 0.885 0.886 0.918 0.89	820	0.901	0.904	0.908	0.905	0.906
0.891 0.894 0.889 0.906 0.885 0.853 0.876 0.906 0.885 0.853 0.866 0.896 0.875 0.843 0.866 0.884 0.864 0.832 0.856 0.870 0.849 0.818 0.841 0.843 0.793 0.816 0.787 0.798 0.774 0.756 0.772 0.798 0.774 0.746 0.766 0.806 0.787 0.779 0.779 0.829 0.810 0.781 0.803 0.829 0.826 0.849 0.874 0.826 0.849 0.894 0.874 0.866 0.905 0.885 0.852 0.876 0.905 0.891 0.885 0.885 0.886 0.916 0.891 0.886 0.889 0.889 0.918 0.894 0.886 0.889 0.889 0.918 0.897 0.	855	0.894	0.899	0.903	0.899	0.901
0.906 0.885 0.853 0.876 0.896 0.875 0.843 0.866 0.884 0.864 0.832 0.856 0.8870 0.849 0.818 0.841 0.843 0.793 0.781 0.816 0.798 0.774 0.766 0.772 0.793 0.774 0.746 0.766 0.806 0.787 0.781 0.766 0.829 0.810 0.772 0.772 0.854 0.810 0.826 0.849 0.874 0.826 0.849 0.866 0.905 0.885 0.852 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.891 0.865 0.882 0.916 0.891 0.885 0.882 0.916 0.891 0.885 0.882 0.916 0.891 0.885 0.889	098	0.891	0.890	0.894	0.889	0.892
0.896 0.875 0.843 0.866 0.884 0.864 0.832 0.856 0.870 0.849 0.818 0.841 0.843 0.823 0.793 0.816 0.843 0.780 0.772 0.787 0.793 0.774 0.746 0.772 0.806 0.787 0.781 0.766 0.829 0.810 0.781 0.826 0.854 0.834 0.826 0.849 0.874 0.852 0.849 0.905 0.885 0.852 0.876 0.905 0.891 0.859 0.882 0.912 0.891 0.859 0.882 0.916 0.899 0.859 0.882 0.916 0.891 0.865 0.882 0.916 0.891 0.865 0.882 0.916 0.899 0.865 0.889	865	906.0	0.885	0.853	0.876	0.840
0.884 0.864 0.832 0.856 0.870 0.849 0.818 0.841 0.843 0.823 0.793 0.816 0.815 0.780 0.787 0.787 0.793 0.774 0.746 0.772 0.806 0.787 0.781 0.776 0.829 0.810 0.781 0.803 0.854 0.834 0.826 0.849 0.874 0.858 0.852 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.897 0.865 0.887 0.916 0.897 0.865 0.887 0.918 0.897 0.865 0.889 0.916 0.897 0.865 0.889	870	968.0	0.875	0.843	998.0	0.830
0.870 0.849 0.818 0.841 0.843 0.823 0.793 0.816 0.815 0.795 0.766 0.787 0.798 0.774 0.746 0.772 0.793 0.774 0.746 0.772 0.806 0.787 0.746 0.766 0.829 0.810 0.779 0.779 0.824 0.834 0.826 0.849 0.877 0.858 0.856 0.849 0.894 0.874 0.866 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.885 0.885 0.885 0.916 0.897 0.887 0.887 0.887 0.918 0.898 0.866 0.889 0.889 0.918 0.897 0.889 0.889 0.889	875	0.884	0.864	0.832	0.856	0.821
0.843 0.823 0.793 0.816 0.815 0.795 0.766 0.787 0.798 0.774 0.746 0.772 0.806 0.774 0.746 0.776 0.806 0.787 0.759 0.779 0.829 0.810 0.781 0.803 0.854 0.834 0.849 0.849 0.894 0.874 0.866 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.885 0.885 0.885 0.916 0.897 0.885 0.885 0.885 0.916 0.897 0.885 0.885 0.885 0.916 0.897 0.889 0.885 0.889	880	0.870	0.849	0.818	0.841	0.805
0.815 0.795 0.766 0.787 0.798 0.774 0.751 0.772 0.806 0.774 0.746 0.766 0.806 0.787 0.759 0.779 0.829 0.810 0.781 0.803 0.877 0.858 0.826 0.849 0.894 0.874 0.866 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.891 0.885 0.885 0.916 0.891 0.865 0.882 0.916 0.897 0.885 0.882 0.917 0.891 0.865 0.887 0.918 0.898 0.866 0.889	885	0.843	0.823	0.793	0.816	0.782
0.798 0.780 0.751 0.772 0.793 0.774 0.746 0.766 0.806 0.787 0.759 0.779 0.829 0.810 0.781 0.803 0.854 0.858 0.826 0.849 0.894 0.874 0.852 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.897 0.885 0.885 0.916 0.897 0.887 0.887 0.918 0.898 0.865 0.889 0.918 0.897 0.889 0.889	068	0.815	0.795	0.766	0.787	0.755
0.793 0.774 0.746 0.766 0.806 0.787 0.759 0.779 0.829 0.810 0.781 0.803 0.854 0.834 0.826 0.849 0.894 0.874 0.842 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.897 0.887 0.917 0.897 0.885 0.918 0.897 0.887 0.918 0.897 0.887 0.918 0.897 0.889	895	0.798	0.780	0.751	0.772	0.740
0.806 0.787 0.759 0.779 0.829 0.810 0.781 0.803 0.854 0.834 0.804 0.826 0.877 0.858 0.826 0.849 0.905 0.885 0.852 0.866 0.912 0.891 0.859 0.882 0.916 0.897 0.865 0.887 0.918 0.897 0.865 0.887 0.918 0.897 0.865 0.889 0.917 0.897 0.865 0.889	006	0.793	0.774	0.746	0.766	0.735
0.829 0.810 0.781 0.803 0.854 0.834 0.804 0.826 0.877 0.858 0.826 0.849 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.897 0.865 0.887 0.918 0.897 0.865 0.887 0.917 0.897 0.865 0.889	905	0.806	0.787	0.759	0.779	0.748
0.854 0.834 0.804 0.826 0.877 0.858 0.826 0.849 0.894 0.872 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.897 0.865 0.887 0.918 0.897 0.865 0.889 0.917 0.897 0.865 0.889	910	0.829	0.810	0.781	0.803	0.770
0.877 0.858 0.826 0.849 0.894 0.874 0.842 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.897 0.865 0.887 0.918 0.898 0.866 0.889 0.917 0.897 0.865 0.888	915	0.854	0.834	0.804	0.826	0.793
0.894 0.874 0.842 0.866 0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.897 0.865 0.887 0.918 0.898 0.866 0.889 0.917 0.897 0.865 0.888	920	0.877	0.858	0.826	0.849	0.815
0.905 0.885 0.852 0.876 0.912 0.891 0.859 0.882 0.916 0.897 0.865 0.887 0.918 0.898 0.865 0.889 0.917 0.897 0.865 0.888	925	0.894	0.874	0.842	0.866	0.831
0.912 0.891 0.859 0.882 0.916 0.897 0.865 0.887 0.918 0.898 0.866 0.889 0.917 0.897 0.865 0.888	930	0.905	0.885	0.852	0.876	0.841
0.916 0.897 0.865 0.887 0.918 0.898 0.866 0.889 0.917 0.897 0.865 0.888	935	0.912	0.891	0.859	0.882	0.847
0.918 0.898 0.866 0.889 0.917 0.897 0.865 0.888	940	0.916	0.897	0.865	0.887	0.852
0.917 0.897 0.865 0.888	945	0.918	0.898	998.0	0.889	0.854
	950	0.917	0.897	0.865	0.888	0.854

	IACHI U-2000 -	PULYCASI IE	HITACHI U-2000 - POLYCASI TECHNOLOGY CORPORATION	JKFOKALION	
			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.882	0.882	0.882	0.883	0.882
455	0.884	0.884	0.884	0.884	0.884
460	0.886	0.885	0.885	0.886	0.885
465	0.887	0.887	0.886	0.887	0.887
470	0.888	0.888	0.888	0.888	0.888
475	0.889	6880	0.889	0.89	0.889
480	0.89	68.0	0.89	0.891	0.89
485	0.892	0.891	0.892	0.892	0.892
490	0.892	0.892	0.892	0.892	0.892
495	0.893	0.892	0.893	0.893	0.893
200	0.893	0.893	0.893	0.893	0.893
505	0.894	0.894	0.894	0.894	0.893
510	0.895	0.894	0.895	0.895	0.895
515	0.895	0.895	0.895	0.895	0.895
520	968.0	0.895	0.895	0.895	0.895
525	968.0	0.895	0.896	0.895	0.895
530	968.0	0.895	968.0	968.0	0.896
535	968.0	0.896	0.895	0.896	0.896
540	0.896	0.896	0.896	0.896	0.896
545	968.0	0.895	968.0	968.0	968.0
550	0.897	0.896	0.896	968.0	0.896
555	0.897	0.896	968.0	0.897	0.897
260	0.897	0.896	0.897	0.897	0.897
292	0.898	0.897	0.897	0.898	0.897
570	0.898	0.897	0.897	0.898	0.898
575	0.899	0.897	0.897	868.0	868.0
280	0.899	0.898	868.0	0.898	0.898
585	6.0	0.898	0.899	0.899	0.899
590	0.901	0.898	0.899	0.899	0.899
595	0.901	0.899	6.0	6.0	0.899
009	0.901	6.0	0.901	0.901	0.901
902	0.905	0.901	0.901	0.901	0.901
610	0.903	0.901	0.902	0.902	0.901
615	0.903	0.901	0.902	0.902	CU0 U

SAMPLE		ACHI U-2000 -	POLYCAST T	HITACHI U-2000 - POLYCAST TECHNOLOGY CORPORATION	ORPORATION	
Rep. 1 Rep. 2 (trans.) (trans.) 0.904 0.902 0.905 0.904 0.906 0.904 0.907 0.904 0.908 0.906 0.909 0.908 0.91 0.909 0.911 0.909 0.912 0.901 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.912 0.905 0.908 0.906 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.912 0.911 0.91 0.911 0.			S/S	AMPLE 1		
(trans.) (trans.) (0.904 0.902 0.904 0.905 0.906 0.904 0.906 0.904 0.906 0.907 0.906 0.908 0.911 0.911 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.906 0.906 0.906 0.906 0.906 0.906 0.906 0.906 0.906 0.906 0.906 0.906 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.901 0.912 0.912 0.912 0.912 0.912 0.912 0.911 0.912 0.912 0.911 0.912 0.911 0.911 0.911 0.911	wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
0.904 0.902 0.905 0.904 0.906 0.904 0.907 0.906 0.908 0.908 0.911 0.901 0.911 0.912 0.913 0.912 0.914 0.908 0.906 0.906 0.906 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.901 0.912 0.911 0.911 0.912 0.911	(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.905 0.904 0.906 0.904 0.906 0.904 0.907 0.908 0.910 0.901 0.911 0.901 0.911 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.908 0.908 0.908 0.908 0.909 0.909 0.908 0.901 0.908 0.901 0.908 0.901 0.908 0.901 0.908 0.901 0.908 0.902 0.908 0.901 0.908 0.901 0.908 0.901 0.908 0.901 0.901	620	0.904	0.905	0.902	0.903	0.903
0.906 0.904 0.907 0.906 0.908 0.907 0.910 0.909 0.911 0.901 0.911 0.911 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.906 0.906 0.907 0.906 0.906 0.907 0.906 0.907 0.906 0.907 0.907 0.901 0.899 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.901 0.911 0.912 0.911 0.911 0.912	625	0.905	0.904	0.904	0.904	0.904
0.907 0.906 0.908 0.908 0.909 0.908 0.911 0.901 0.911 0.911 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.912 0.915 0.916 0.908 0.908 0.906 0.906 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.901 0.911 0.912 0.911	630	906.0	0.904	0.904	0.905	0.905
0.908 0.907 0.909 0.908 0.911 0.909 0.911 0.901 0.911 0.911 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.906 0.906 0.906 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.901 0.912 0.911 0.911 0.912	635	0.907	906.0	906.0	0.907	0.906
0.909 0.908 0.911 0.909 0.911 0.909 0.911 0.909 0.911 0.911 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.912 0.906 0.908 0.906 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908	640	0.908	0.907	0.907	0.908	0.907
0.91 0.909 0.911 0.909 0.911 0.901 0.911 0.91 0.912 0.91 0.913 0.912 0.914 0.912 0.915 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.912 0.915 0.912 0.916 0.908 0.908 0.908 0.909 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.901 0.908 0.912 0.912 0.911 0.911 0.911 0.911 0.911 0.911	645	0.909	0.908	0.908	0.909	0.908
0.911 0.909 0.911 0.91 0.911 0.91 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.904 0.908 0.906 0.906 0.906 0.906 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908	650	0.91	0.909	606'0	0.91	0.909
0.911 0.91 0.911 0.91 0.912 0.91 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.912 0.908 0.908 0.906 0.908 0.907 0.908	655	0.911	0.909	0.91	0.91	0.91
0.911 0.91 0.912 0.91 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.911 0.919 0.906 0.906 0.906 0.907 0.908 0.907 0.908	099	0.911	0.91	16.0	0.91	0.91
0.911 0.91 0.912 0.91 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.911 0.919 0.906 0.906 0.906 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.908 0.907 0.901 0.912 0.911 0.912 0.912 0.912 0.911	999	0.911	0.91	16.0	0.911	0.91
0.912 0.91 0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.911 0.908 0.908 0.906 0.906 0.907 0.902 0.907 0.902 0.907 0.902 0.907 0.902 0.907 0.902 0.907 0.902 0.907 0.902 0.907 0.902 0.907 0.903 0.907 0.904 0.907 0.901	0/9	0.911	0.91	0.91	0.911	0.91
0.912 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.914 0.911 0.908 0.908 0.906 0.908 0.900 0.902 0.901 0.899 0.907 0.902 0.907 0.902 0.907 0.902 0.907 0.903 0.912 0.911 0.912 0.911 0.912 0.912	675	0.912	0.91	0.91	0.912	0.912
0.913 0.912 0.913 0.912 0.913 0.912 0.913 0.912 0.912 0.912 0.908 0.908 0.906 0.906 0.906 0.906 0.907 0.899 0.907 0.909 0.907 0.908 0.907 0.908 0.912 0.911 0.912 0.912 0.912 0.912	089	0.912	0.912	0.911	0.912	0.912
0.913 0.912 0.913 0.912 0.913 0.912 0.912 0.912 0.908 0.908 0.906 0.906 0.900 0.906 0.901 0.899 0.902 0.902 0.902 0.902 0.903 0.902 0.904 0.907 0.908 0.907 0.908 0.912 0.911 0.912 0.912 0.912 0.912	685	0.913	0.912	0.912	0.913	0.912
0.913 0.912 0.913 0.912 0.912 0.911 0.908 0.908 0.906 0.906 0.900 0.906 0.901 0.899 0.902 0.902 0.901 0.899 0.902 0.902 0.901 0.901 0.912 0.911 0.912 0.912 0.911 0.912	069	0.913	0.912	0.912	0.913	0.912
0.913 0.912 0.912 0.911 0.911 0.911 0.908 0.908 0.906 0.906 0.902 0.902 0.901 0.899 0.902 0.902 0.902 0.902 0.902 0.902 0.901 0.901 0.912 0.911 0.912 0.912 0.911 0.912	695	0.913	0.912	0.912	0.913	0.912
0.912 0.911 0.911 0.91 0.908 0.908 0.906 0.906 0.902 0.902 0.901 0.899 0.902 0.902 0.902 0.902 0.907 0.902 0.907 0.904 0.907 0.901 0.912 0.911 0.912 0.912 0.912 0.912	700	0.913	0.912	0.912	0.913	0.912
0.911 0.91 0.908 0.908 0.906 0.906 0.901 0.899 0.902 0.809 0.902 0.809 0.902 0.902 0.902 0.904 0.907 0.904 0.907 0.904 0.912 0.911 0.912 0.911 0.911 0.912	705	0.912	0.911	0.912	0.912	0.911
0.908 0.908 0.906 0.906 0.902 0.902 0.901 0.899 0.902 0.902 0.905 0.904 0.907 0.908 0.912 0.911 0.912 0.912 0.911 0.912 0.911 0.912	710	0.911	0.91	0.91	0.911	0.91
0.906 0.906 0.902 0.902 0.901 0.899 0.902 0.809 0.902 0.902 0.907 0.904 0.907 0.908 0.912 0.911 0.912 0.912 0.911 0.912	715	0.908	0.908	0.908	0.909	0.908
0.902 0.902 0.901 0.899 0.902 0.809 0.905 0.904 0.907 0.908 0.912 0.911 0.912 0.912 0.912 0.912 0.912 0.912 0.912 0.912	720	0.906	906.0	906.0	0.907	0.906
0.901 0.899 0.9 0.902 0.809 0.905 0.902 0.907 0.908 0.912 0.911 0.912 0.912 0.912 0.912 0.912 0.912 0.912 0.912	725	0.902	0.905	0.902	0.902	0.902
0.9 0.899 0.902 0.902 0.905 0.904 0.907 0.908 - 0.91 0.911 0.912 0.912 0.911 0.912 0.911 0.912	730	0.901	0.899	0.899	0.901	0.0
0.902 0.902 0.905 0.904 0.907 0.908 - 0.91 0.911 0.912 0.912 0.911 0.912 0.91 0.912	735	6.0	0.899	6.0	6.0	0.899
0.905 0.904 0.907 0.908 0.912 0.911 0.912 0.912 0.911 0.912 0.91 0.911	740	0.902	0.905	0.901	0.902	0.902
0.907 0.908 - 0.91 0.911 0.912 0.912 0.911 0.911 0.91 0.911	745	0.905	0.904	0.905	0.905	0.904
0.912 0.911 0.912 0.911 0.911 0.912 0.91 0.911 0.91 0.91	750	0.907	0.908	0.908	0.908	0.907
0.912 0.911 0.912 0.912 0.911 0.912 0.91 0.911	755	. 0.91	0.91	0.91	0.91	0.91
0.912 0.912 0.911 0.912 0.91 0.911	160	0.912	0.911	0.912	0.912	0.912
0.911 0.912 0.91 0.911 0.91 0.91	765	0.912	0.912	0.912	0.912	0.912
0.91 0.91	770	0.911	0.912	0.912	0.912	0.912
0.91 0.91	775	0.91	0.911	0.911	0.911	0.911
100	780	0.91	0.91	0.91	0.91	0.911
0.91	785	0.91	0.91	16.0	0.91	0.91

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The melanous			SAMPLE I		
wavelengin	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
790	0.908	0.908	0.908	0.908	0.909
795	0.907	0.908	0.907	0.908	0.908
800	0.907	0.907	0.907	0.907	0.907
805	0.907	0.907	0.907	0.907	0.907
810	0.907	0.907	0.908	0.907	0.907
815	0.907	0.908	0.907	0.907	0.907
820	0.908	0.908	0.908	0.908	0.908
825	0.908	0.909	0.909	0.909	0.909
830	0.908	0.91	0.909	0.909	0.91
835	0.908	0.909	0.909	0.909	0.909
840	0.907	0.908	0.907	806.0	0.908
845	906.0	0.907	0.907	0.907	0.907
850	0.903	0.904	0.904	0.904	0.904
855	0.898	0.899	0.899	0.898	0.899
098	0.89	0.892	0.891	0.892	0.892
865	0.882	0.882	0.882	0.882	0.882
870	0.871	0.872	0.871	0.872	0.872
875	0.86	98.0	0.86	0.86	0.861
880	0.843	0.843	0.843	0.843	0.843
885	0.814	0.813	0.814	0.814	0.814
068	0.788	0.787	0.788	0.787	0.787
895	0.775	0.775	0.775	0.775	0.776
006	0.774	0.773	0.773	0.773	0.774
905	0.791	0.792	0.791	0.791	0.792
910	0.817	0.817	0.817	0.817	0.818
915	0.842	0.842	0.843	0.842	0.843
920	0.864	0.864	0.864	0.864	0.865
925	0.879	0.878	0.878	0.878	0.879
930	0.888	0.887	0.887	0.887	0.888
935	0.895	0.894	0.895	0.895	0.895
940	0.899	0.897	0.898	0.898	0.899
945	0.0	0.899	0.899	0.899	0.901
950	0.898	0.897	968.0	0.897	0.898

	PERONICS MO	DEL 736 RADI	OPTRONICS MODEL 736 RADIOMETER - TEXSTAR, INC.	STAR, INC.	
		/S	SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.910	0.901	0.909	0.907	0.921
455	0.914	906.0	0.913	0.912	0.937
460	0.927	0.918	0.925	0.925	0.936
465	0.922	0.914	0.920	0.922	0.933
470	0.923	0.916	0.919	0.919	0.937
475	0.924	0.915	0.921	0.920	0.937
480	0.927	0.913	0.922	0.922	0.936
485	0.927	0.915	0.924	0.922	0.936
490	0.928	0.915	0.921	0.921	0.935
495	0.927	0.915	0.921	0.920	0.937
200	0.929	0.916	0.922	0.921	0.939
202	0.927	0.915	0.922	0.918	0.937
510	0.930	0.916	0.924	0.920	0.938
515	0.931	0.916	0.926	0.921	0.937
520	0.932	0.916	0.927	0.921	0.939
525	0.928	0.916	0.923	0.919	0.935
530	0.930	0.916	0.923	0.919	0.936
535	0.929	0.915	0.921	0.917	0.933
540	0.930	0.913	0.918	0.918	0.933
545	0.928	0.913	0.920	0.917	0.932
550	0.931	0.913	0.922	0.918	0.935
555	0.930	0.915	0.921	0.916	0.932
260	0.929	0.915	0.921	0.917	0.933
565	0.930	0.915	0.922	0.918	0.933
570	0.930	0.913	0.920	0.917	0.933
575	0.932	0.915	0.919	0.917	0.933
280	0.932	0.914	0.920	0.916	0.934
585	0.932	0.913	0.920	0.915	0.932
290	0.932	0.914	0.919	0.915	0.933
595	0.933	0.916	0.921	0.916	0.935
009	0.932	0.916	0.921	0.917	0.932
605	0.932	0.916	0.920	0.917	0.932
610	0.931	0.916	0.921	0.914	0.932
615	0.934	0.919	0.926	0.918	0.935

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	in the state of th				
			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.938	0.921	0.929	0.923	0.938
625	0.939	0.924	0.929	0.924	0.939
089	0.940	0.925	0.930	0.925	0.939
635	0.942	0.927	0.933	0.926	0.940
640	0.942	0.927	0.932	0.926	0.940
645	0.942	0.925	0.932	0.928	0.940
059	0.943	0.927	0.931	0.928	0.939
655	0.944	0.928	0.934	0.928	0.937
099	0.943	0.929	0.934	0.929	0.933
999	0.944	0.929	0.935	0.930	0.933
0.09	0.944	0.930	0.935	0.931	0.933
675	0.945	0.930	0.936	0.931	0.933
089	0.946	0.930	0.936	0.930	0.934
685	0.945	0.931	0.935	0.930	0.934
069	0.947	0.932	0.938	0.933	0.935
695	0.947	0.933	0.937	0.934	0.935
200	0.945	0.932	0.936	0.932	0.933
705	0.944	0.932	0.936	0.932	0.931
710	0.945	0.932	0.936	0.931	0.931
715	0.943	0.931	0.933	0.929	0.928
720	0.940	0.928	0.931	0.927	0.930
725	0.934	0.922	0.929	0.921	0.924
730	0.934	0.922	0.928	0.920	0.923
735	0.933	0.922	0.926	0.919	0.918
740	0.935	0.923	0.927	0.920	0.918
745	0.938	0.927	0.928	0.922	0.924
750	0.942	0.930	0.931	0.928	0.929
755	0.944	0.931	0.933	0.928	0.931
092	0.947	0.934	0.936	0.930	0.934
765	0.947	0.936	0.937	0.930	0.939
170	0.946	0.934	0.936	0.929	0.939
775	0.946	0.934	0.935	0.930	0.934
780	0.946	0.934	0.935	0.928	0.933
785	9760	0 033	0.034	0000	1000

	OPTRONICS MO	DEL 736 RAI	OPTRONICS MODEL 736 RADIOMETER - TEXSTAR, INC.	STAR,INC.	
			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.943	0.931	0.933	0.928	0.931
795	0.942	0.931	0.933	0.927	0.931
008	0.944	0.932	0.934	0.927	0.932
802	0.942	0.932	0.933	0.927	0.932
810	0.941	0.933	0.933	0.926	0.933
815	0.942	0.931	0.932	0.927	0.933
820	0.943	0.934	0.934	0.929	0.934
825	0.945	0.935	0.935	0.929	0.936
830	0.945	0.934	0.934	0.930	0.934
835	0.942	0:630	0.931	0.926	0.932
840	0.942	0.930	0.932	0.928	0.933
845	0.941	0.930	0.930	0.925	0.931
850	0.935	0.925	0.927	0.921	0.928
855	0.930	0.920	0.919	0.915	0.922
098	0.922	0.911	0.909	906.0	0.912
865	0.912	0.901	0.901	0.895	0.903
870	0.901	0.890	0.889	0.885	0.892
875	0.890	0.879	0.878	0.873	0.881
880	0.868	0.859	0.859	0.854	0.861
885	0.840	0.831	0.831	0.826	0.833
068	0.817	0.806	908.0	0.801	0.808
895	0.802	0.793		0.788	0.794
006	0.802	0.793	0.790	0.787	0.795
905	0.820	0.810	0.805	0.803	0.808
910	0.848	0.836	0.831	0.829	0.837
915	0.872	0.861	0.855	0.855	0.861
920	0.894	0.884	0.878	0.877	0.887
925	606'0	0.899	0.893	0.892	0.902
930	0.919	0.906	0.903	0.903	0.911
935	0.924	0.914	0.909	0.908	0.917
940	0.926	0.917	0.912	0.912	0.919
945	0.929	0.920		0.916	0.922
056	0.927	0.917	0.914	0.913	0.919

			CHARLES AND	OWNERSHAND SECTION OF THE COMPACING PRINTS OF THE COMP.	Mr.
		SA	SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.879	0.880	0.878	0.880	0.877
455	0.881	0.882	0.880	0.882	0.879
460	0.883	0.882	0.881	0.884	0.881
465	0.885	0.885	0.884	0.886	0.882
470	0.885	0.886	0.885	0.887	0.883
475	0.886	0.886	988.0	0.888	0.885
480	0.888	0.889	0.887	0.890	0.886
485	0.890	0.890	0.888	0.890	0.888
490	968.0	0.891	0.888	0.891	0.888
495	0.890	0.891	0.890	0.892	0.889
200	0.891	0.892	0.890	0.893	0.889
505	0.892	0.892	0.891	0.893	0.890
510	0.892	0.892	0.891	0.893	0.890
515	0.892	0.893	0.892	0.895	0.891
520	0.894	0.894	0.893	0.894	0.892
525	0.894	0.895	0.893	0.895	0.892
530	0.894	0.894	0.893	968.0	0.891
535	0.894	0.895	0.894	0.895	0.892
540	0.893	0.894	0.893	0.895	0.892
545	0.894	0.895	0.893	0.895	0.892
550	0.894	0.895	0.892	968.0	0.893
555	0.895	0.895	0.893	0.896	0.893
260	968.0	0.895	0.894	0.897	0.894
295	0.895	0.895	0.895	968.0	0.894
270	968.0	968.0	0.895	0.897	0.894
575	0.897	968.0	0.895	0.898	0.894
280	0.898	0.898	0.896	0.898	0.895
585	0.897	0.898	968.0	0.898	0.896
290	0.897	0.898	968.0	0.898	0.896
595	868.0	0.898	0.897	0.899	0.897
009	868.0	0.898	0.897	0.899	0.898
902	0.899	0.899	0.898	0.900	0.899
610	0.899	0.901	0.899	0.901	0.899
615	0.901	0.902	0.900	0.902	0.899

D	V/VIS/NIR SPEC	TROPHOTOME	UV/VIS/NIR SPECTROPHOTOMETER -SIERRACIN/SYLMAR CORP.	IN/SYLMAR CC	JRP.
		SA	SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.901	0.901	0.900	0.903	0.900
625	0.902	0.901	0.900	0.904	0.901
930	0.903	0.904	0.902	0.904	0.902
635	0.905	0.904	0.904	906.0	0.904
640	906.0	0.907	0.905	906.0	0.905
645	0.907	0.907	0.906	0.908	0.905
029	0.908	0.908	0.907	0.908	0.907
655	0.909	0.909	0.907	0.909	0.907
099	0.908	0.910	0.908	0.910	0.908
999	0.910	606.0	0.908	0.910	0.908
029	606.0	0.909	0.908	0.910	0.908
675	0.910	0.910	606.0	0.911	0.908
089	0.910	0.910	0.909	0.910	0.909
985	0.911	0.910	0.909	0.911	0.909
069	0.911	0.912	0.910	0.912	0.911
969	0.911	0.912	0.911	0.913	0.910
700	0.911	0.912	0.911	0.912	0.910
705	0.910	0.911	0.910	0.912	0.909
710	0.910	0.909	0.908	0.910	0.908
715	0.908	0.908	0.907	0.909	0.907
720	0.905	0.905	0.903	906.0	0.903
725	0.901	0.901	0.900	0.902	0.900
730	0.900	0.899	0.897	0.900	0.898
735	0.899	0.899	0.898	0.900	0.897
740	0.901	0.902	0.900	0.903	0.900
745	0.904	0.904	0.904	0.905	0.903
750	906.0	906.0	906.0	0.908	0.905
755	606.0	0.908	0.908	0.911	0.908
092	0.909	0.910	0.909	0.911	0.909
765	0.911	0.912	0.910	0.914	0.911
770	0.912	0.912	0.911	0.913	0.910
775	0.911	0.909	0.908	0.912	0.910
780	0.909	0.910	0.908	0.911	0.908
785	0.908	0.910	0.907	0.911	0.908

n	V/VIS/NIR SPEC	FROPHOTO	UV/VIS/NIR SPECTROPHOTOMETER -SIERRACIN/SYLMAR CORP.	IN/SYLMAR CO	ORP.
			SAMPLE 1		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.))	(trans.)	(trans.)
190	0.908	0.908	206.0	0.910	0.906
795	906'0	0.906	906:0	0.907	0.905
800	0.905	0.907		0.907	0.905
805	0.905	0.906	0.905	0.907	0.905
810	906'0	0.907	506.0	0.908	0.903
815	906'0	0.905	0.905	0.908	0.906
820	606.0	0.909	906:0	0.909	0.907
825	0.907	0.907	206.0	0.909	0.907
830	0.910	0.909	806'0	0.914	0.907
835	0.909	0.910	0.910	0.912	0.907
840	906.0	0.909	206.0	0.912	0.906
845	0.905	0.908	0.902	906.0	0.908
850	0.905	0.904	906'0	0.907	0.902
855	0.893	0.900	0.894	0.900	0.898
098	0.888	0.890	0.883	0.893	0.889
865	0.888	0.895	0.897	0.899	0.885
870	0.880	0.884	0.885	0.890	0.874
875	0.868	0.864	998.0	0.865	0.862
088	0.849	0.850		0.853	0.844
885	0.820	0.828	0.822	0.825	0.814
068	0.791	0.798	0.794	0.799	0.789
895	0.777	0.785		0.786	0.780
006	0.776	0.786	0.786	0.788	0.781
905	0.810	0.807	0.809	0.809	0.798
910	0.821	0.828	0.830	0.835	0.825
915	0.841	0.852		0.855	0.852
920	0.877	0.876		0.882	0.870
925	0.886	0.899	0.892	968.0	0.884
930	0.892	0.888		0.896	0.894
935	0.908	0.905	0.910	0.913	0.901
940	0.910	0.916	0.914	0.915	0.901
945	0.902	0.907		0.905	0.903
950	0.907	0.910	0.914	0.915	0.901

EG	S&G RADOMA	SPECTRARADI	EG&G RADOMA SPECTRARADIOMETER - ARMSTRONG LAB (HECV)	STRONG LAB	(HECV)
			SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.783	0.778	0.799	0.802	0.790
455	0.783	0.779	0.796	0.788	0.796
460	0.783	0.780	0.799	0.802	0.792
465	0.790	0.789	908.0	0.801	0.798
470	0.793	0.795	0.801	0.803	908.0
475	0.795	0.790	0.800	0.792	962.0
480	0.793	0.785	0.803	0.805	0.80
485	0.797	0.795	0.805	0.804	0.802
490	0.794	0.798	0.805	908.0	0.802
495	0.789	0.800	0.805	0.803	0.804
200	0.797	0.800	0.810	0.807	0.810
505	0.794	0.796	0.808	608.0	0.809
510	0.801	0.801	0.808	0.809	0.816
515	0.800	0.798	0.811	0.811	0.809
520	0.797	0.803	0.812	0.807	0.814
525	0.797	0.801	0.811	0.814	0.811
230	0.799	0.802	0.814	0.814	0.806
535	0.806	0.803	0.814	0.813	0.810
540	0.805	0.802	0.814	0.810	0.816
545	0.804	0.797	0.814	0.810	0.819
550	0.804	0.800	0.810	0.809	0.818
555	0.804	0.801	0.809	0.811	0.810
260	0.805	0.803	0.812	0.812	0.812
292	0.805	0.806	0.813	0.812	0.806
570	0.806	0.804	0.814	0.816	0.822
575	0.805	0.801	0.818	0.815	0.813
280	0.803	0.804	0.819	0.814	0.817
585	0.809	0.810	0.816	0.819	0.815
290	0.809	0.813	0.819	0.818	0.817
595	0.814	0.812	0.820	0.822	0.821
009	0.812	0.813	0.819	0.817	0.825
909	0.813	0.814	0.820	0.819	0.821
610	0.814	0.817	0.821	0.823	0.824
615	0.816	0.818	0.830	0.828	0.824

I	EG&G RADOMA SPECTRARADIOMETER - ARMSTRONG LAB (HECV)	SPECTRARAD	IOMETER - ARM	STRONG LAB	(HECV)
		S	SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.823	0.823	0.834	0.832	0.826
625	0.826	0.824	0.839	0.833	0.832
089	0.829	0.826	0.838	0.833	0.833
929	0.830	0.832	0.841	0.840	0.834
640	0.834	0.830	0.843	0.842	0.845
645	0.834	0.834	0.844	0.845	0.842
059	0.837	0.835	0.849	0.846	0.844
655	0.840	0.839	0.853	0.851	0.844
099	0.844	0.841	0.853	0.855	0.847
599	0.846	0.849	0.861	0.857	0.857
0/9	0.844	0.844	0.861	0.853	0.852
519	0.849	0.846	0.858	098.0	0.845
089	0.846	0.846	0.858	0.858	0.857
685	0.850	0.845	0.863	0.855	0.855
069	0.852	0.851	098.0	0.860	0.852
569	0.850	0.849	0.856	0.861	0.855
002	0.852	0.850	0.864	0.861	0.862
705	0.854	0.855	0.865	0.863	0.859
710	0.857	0.850	0.864	0.861	0.854
715	0.858	0.858	0.867	998.0	0.862
720	0.857	0.858	0.864	0.864	0.865
725	0.856	0.854	0.865	0.865	0.866
730	0.855	0.853	0.861	0.861	0.855
735	0.851	0.851	0.861	0.858	0.859
740	0.849	0.851	0.858	0.859	0.859
745	· 0.854	0.854	0.866	0.864	0.858
750	0.859	0.858	0.867	0.865	0.865
755	0.865	0.862	0.876	0.869	0.861
092	0.864	0.863	0.874	0.871	0.870
765	0.867	0.863	0.875	0.872	0.882
770	0.867	0.861	0.876	0.871	0.880
775	0.867	0.862	0.872	0.873	0.883
780	0.863	0.863	0.868	0.867	0.880
785	0.864	098.0	0.870	0.871	0.875

		SA	SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
790	0.859	0.856	0.870	0.869	0.872
795	0.864	098.0	698.0	0.867	0.875
800	998.0	0.860	698.0	0.871	0.880
805	0.870	0.867	0.872	0.867	0.881
810	0.867	0.859	0.873	0.871	0.879
815	0.871	0.869	0.876	0.879	0.880
820	0.876	0.864	0.879	0.875	0.882
825	0.876	0.873	0.875	0.877	0.882
830	0.868	0.864	0.871	0.871	0.880
835	0.868	198.0	0.875	0.875	0.888
840	0.866	0.862	998.0	0.862	0.883
845	0.856	0.855	998.0	0.863	0.866
820	0.857	0.851	0.863	0.857	0.860
855	0.840	0.841	0.846	0.847	0.842
098	0.825	0.820	0.829	0.834	0.819
865	0.811	908.0	0.823	0.815	0.814
028	0.826	0.820	0.827	0.832	0.846
875	0.844	0.842	0.846	0.851	0.837
088	0.847	0.841	0.851	0.851	0.831
885	0.843	0.840	0.846	0.851	0.851
068	0.841	0.836	0.838	0.846	0.844
895	0.818	0.821	0.826	0.824	0.819
006	0.801	0.809	0.799	0.806	0.805
905	0.795	0.791	0.801	0.799	0.797
910	0.824	0.821	0.820	0.826	0.825
915	0.837	0.828	0.838	0.844	0.818
920	0.853	0.853	0.848	0.855	0.851
925	0.859	0.855	0.855	0.864	0.857
930	0.857	0.867	0.852	0.856	0.858
935	0.862	0.850	0.873	0.858	0.833
940	0.845	0.853	0.873	0.877	0.854
945	0.844	0.866	0.873	0.879	0.833
050	8580	0.963	0 001	1200	7300

CA	ARY 5G SPECTR	APHOTOME	CARY 5G SPECTRAPHOTOMETER - BROOKS, AFB (AL/OEO)	FB (AL/OEO)	
		8	SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.787	0.785	0.787	0.782	0.784
455	0.790	0.788	0.792	0.784	0.786
460	0.791	0.789	0.793	0.785	0.788
465	0.799	0.797	0.799	0.793	0.796
470	0.805	0.804	0.806	0.800	0.803
475	0.805	0.804	0.806	0.799	0.801
480	0.804	0.802	0.805	0.799	0.800
485	0.809	0.808	0.810	0.805	0.807
490	0.817	0.815	0.817	0.812	0.813
495	0.817	0.815	0.818	0.811	0.813
200	0.815	0.813	0.815	0.808	0.811
202	0.815	0.814	0.815	0.811	0.812
510	0.821	0.819	0.821	0.816	0.817
515	0.824	0.821	0.824	0.818	0.820
520	0.821	0.819	0.822	0.815	0.817
525	0.819	0.816	0.819	0.813	0.815
530	0.820	0.818	0.821	0.816	0.817
535	0.826	0.824	0.825	0.820	0.822
540	0.827	0.826	0.828	0.822	0.823
545	0.825	0.823	0.826	0.818	0.821
550	0.820	0.819	0.821	0.814	0.816
555	0.819	0.818	0.819	0.814	0.816
260	0.823	0.821	0.824	0.819	0.820
292	0.828	0.826	0.827	0.822	0.824
570	0.829	0.827	0.829	0.823	0.825
575	0.827	0.825	0.828	0.821	0.824
280	0.826	0.823	0.825	0.819	0.822
585	0.825	0.823	0.826	0.819	0.822
290	0.828	0.826	0.828	0.824	0.826
595	0.832	0.830	0.832	0.827	0.829
009	0.834	0.832	0.835	0.829	0.832
909	0.835	0.833	0.835	0.829	0.831
019	0.835	0.832	0.834	0.828	0.831
615	0.835	0.833	0.836	0.830	0.833

Rep. 1 Rep. 2 (trans.) (trans.) 0.838 0.836 0.844 0.847 0.854 0.851 0.854 0.851 0.855 0.855 0.856 0.855 0.857 0.855 0.873 0.873 0.874 0.874 0.875 0.857 0.876 0.877 0.877 0.877 0.878 0.877 0.876 0.875 0.877 0.876 0.877 0.876 0.877 0.876 0.877 0.877 0.871 0.874 0.872 0.874 0.873 0.874 0.874 0.874 0.880 0.880 0.881 0.880 0.883 0.880 0.883 0.880	CARY SG SPECI RAPHOLOME LER - BROOKS, AFB (AL/OEU)	<u> </u>
Rep. 1 (trans.) (trans.) (trans.) (0.838	SAMPLE 2	
(trans.) (0.838 0.838 0.844 0.851 0.854 0.856 0.857 0.873 0.873 0.873 0.873 0.873 0.870 0.870 0.870 0.870 0.870 0.870 0.870 0.870 0.870 0.870 0.870 0.870 0.870 0.871 0.877 0.878 0.877	2 Rep. 3 Rep.	4 Rep. 5
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0.854 0.856 0.857 0.857 0.857 0.873 0.873 0.873 0.873 0.873 0.874 0.876 0.876 0.876 0.876 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877	347 0.850 0.845	0.848
0.856 0.857 0.858 0.858 0.872 0.873 0.873 0.873 0.873 0.876 0.876 0.876 0.877 0.877 0.877 0.877 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873	351 0.854 0.848	0.851
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0.857 0.858 0.865 0.870 0.873 0.873 0.873 0.873 0.873 0.874 0.876 0.876 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873	355 0.857 0.851	0.853
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0.865 0.870 0.873 0.873 0.872 0.872 0.869 0.868 0.876 0.876 0.877 0.877 0.877 0.877 0.877 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873	356 0.858 0.852	0.854
0.865 0.873 0.873 0.872 0.872 0.869 0.868 0.876 0.876 0.877 0.871 0.871 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873	0.855 0.855	0.858
0.870 0.873 0.873 0.872 0.870 0.868 0.868 0.878 0.878 0.877 0.871 0.871 0.873 0.873 0.873 0.880 0.880 0.880		
0.873 0.872 0.872 0.870 0.868 0.868 0.877 0.877 0.871 0.871 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873		
0.873 0.870 0.869 0.868 0.870 0.877 0.877 0.877 0.877 0.877 0.877 0.877 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873 0.873	0.873	0.869
0.872 0.869 0.868 0.868 0.876 0.877 0.877 0.877 0.871 0.873 0.873 0.873 0.873 0.873 0.880 0.880	371 0.872 0.867	698.0
0.870 0.868 0.868 0.870 0.876 0.877 0.877 0.871 0.873 0.873 0.873 0.873 0.880 0.880 0.883	370 0.873 0.866	0.868
0.869 0.868 0.868 0.876 0.877 0.875 0.871 0.866 0.866 0.871 0.873 0.873 0.873 0.880 0.880 0.883	368 0.870 0.864	0.866
0.868 0.870 0.876 0.876 0.877 0.875 0.871 0.866 0.871 0.871 0.873 0.873 0.880 0.880 0.883	367 0.869 0.863	0.866
0.868 0.870 0.876 0.877 0.875 0.871 0.866 0.866 0.866 0.877 0.887 0.883 0.883	366 0.868 0.864	0.866
0.870 0.876 0.877 0.877 0.877 0.866 0.866 0.877 0.873 0.880 0.880 0.883	0.867	0.865
0.876 0.877 0.875 0.875 0.871 0.871 0.873 0.880 0.883 0.883	0.870	0.867
0.878 0.875 0.875 0.871 0.866 0.871 0.873 0.880 0.881 0.883	373 0.875 0.869	0.872
0.877 0.875 0.871 0.866 0.871 0.873 0.873 0.880 0.880 0.883	376 0.878 0.873	0.874
0.875 0.871 0.866 0.871 0.873 0.877 0.880 0.883		
0.871 0.866 0.866 0.871 0.877 0.880 0.881 0.883	372 0.874 0.868	0.872
0.866 0.866 0.871 0.877 0.880 0.881 0.883	0.870	
0.866 0.871 0.877 0.880 0.881 0.883	998.0	
0.871 0.877 0.880 0.881 0.883	364 0.865 0.860	0.862
0.873 0.877 0.880 0.881 0.883	369 0.869 0.866	0.868
0.877 0.880 0.881 0.883 0.880	372 0.873 0.870	0.870
0.880 0.881 0.883 0.880	374 0.877 0.873	0.874
0.883	378 0.879 0.874	0.877
0.883	380 0.881 0.875	0.878
0.880	0.882	0.878
	380 0.881 0.875	0.877
785 0.879 0.879	379 0.880 0.874	0.875

wavelength (nm)			SAMPLE 2		
(mu)	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
790	0.877	0.876	0.877	0.871	0.875
795	0.876	0.875	0.875	0.870	0.872
800	0.875	0.872	0.873	0.870	0.872
805	0.875	0.871	0.875	0.870	0.871
810	0.875	0.871	0.873	0.871	0.874
815	0.878	0.876	0.877	0.872	0.873
820	0.880	0.879	0.880	0.875	0.876
825	0.881	0.879	0.879	0.877	0.879
830	0.885	0.881	0.883	0.879	0.878
835	0.880	0.880	0.881	0.876	0.878
840	0.879	928.0	0.879	0.876	0.876
845	0.874	0.874	0.877	0.869	0.873
820	0.867	0.864	0.872	098.0	0.864
855	0.858	0.860	0.861	0.849	0.855
098	0.843	0.843	0.839	0.838	0.841
865	0.822	0.820	0.824	0.815	0.819
870	0.813	0.815	0.812	0.816	0.815
875	0.833	0.830	0.833	0.828	0.829
088	0.845	0.842	0.845	0.840	0.841
885	0.851	0.846	0.849	0.846	0.847
068	0.846	0.843	0.845	0.842	0.843
895	0.838	0.834	0.835	0.833	0.834
006	0.823	0.820	0.820	0.818	0.818
905	0.805	0.803	0.804	0.800	0.801
910	0.804	0.801	0.804	0.799	0.801
915	0.830	0.826	0.828	0.825	0.828
920	0.850	0.848	0.850	0.843	0.845
925	0.858	0.857	0.860	0.854	0.857
930	0.864	0.862	0.864	0.858	0.861
935	0.867	0.863	0.866	0.860	0.863
940	0.868	0.866	998.0	0.862	0.864
945	0.869	998.0	0.868	0.863	0.865
950	0.869	998.0	898.0	0.863	0.864

	ERKIN ELMER	LAMBDA 9 - BR	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	/OEO)	
		S ∀	SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.778	0.777	0.771	0.775	0.772
455	0.779	0.778	0.773	0.776	0.773
460	0.782	0.781	0.776	0.779	0.774
465	0.791	0.788	0.784	0.787	0.783
470	0.795	0.794	0.788	0.793	0.788
475	0.793	0.793	0.786	0.791	0.787
480	0.795	0.793	0.788	0.791	0.787
485	0.802	0.799	0.795	0.798	0.794
490	0.807	908.0	0.800	0.804	0.799
495	0.805	0.805	0.799	0.803	0.799
200	0.804	0.803	0.797	0.801	0.797
202	0.807	0.805	0.800	0.803	0.799
510	0.813	0.810	0.805	0.809	0.804
515	0.813	0.812	0.805	0.810	0.806
520	0.810	0.809	0.803	0.807	0.803
525	0.809	0.807	0.802	0.806	0.801
530	0.813	0.810	0.805	0.809	0.805
535	0.817	0.815	0.810	0.813	0.80
540	0.818	0.816	0.810	0.815	0.810
545	0.814	0.813	908.0	0.811	0.807
550	0.811	0.809	0.803	0.807	0.804
555	0.811	0.810	0.804	0.808	0.804
290	0.816	0.814	0.809	0.812	0.808
595	0.820	0.818	0.812	0.816	0.812
270	0.820	0.818	0.813	0.817	0.813
575	0.817	0.816	0.810	0.815	0.811
280	0.816	0.815	0.809	0.813	0.809
585	0.818	0.816	0.811	0.815	0.810
290	0.822	0.820	0.815	0.818	0.815
595	0.826	0.824	0.819	0.823	0.818
009	0.827	0.825	0.820	0.824	0.820
909	0.827	0.825	0.819	0.824	0.820
610	0.826	0.825	0.820	0.824	0.820
615	0.828	0.826	0.821	0.825	0.821

PI	ERKIN ELMER I	AMBDA 9 - 1	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	(OEO)	
			SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.833	0.831	0.826	0.829	0.826
625	0.839	0.837	0.833	0.836	0.832
029	0.845	0.843	0.838	0.841	0.837
635	0.848	0.847	0.841	0.845	0.841
640	0.850	0.848	0.843	0.847	0.843
645	0.850	0.848	0.842	0.847	0.843
029	0.850	0.849	0.844	0.847	0.844
655	0.853	0.851	0.846	0.849	0.846
099	0.857	0.854	0.850	0.854	0.850
999	0.862	0.859	0.855	0.858	0.854
029	0.865	0.863	0.859	0.862	0.858
675	198.0	0.865	0.860	0.864	098.0
089	0.866	0.866	098'0	0.864	0.860
685	0.865	0.864	0.859	0.863	0.859
069	0.864	0.863	0.857	0.861	0.858
695	0.864	0.862	0.857	0.861	0.857
700	0.864	0.862	0.858	0.862	0.857
705	0.865	0.863	0.859	0.862	0.858
710	0.868	0.865	0.862	0.864	0.860
715	0.873	0.870		0.869	0.865
720	0.874	0.872		0.871	0.867
725	0.873	0.871	0.866	0.870	0.866
730	0.870	0.869	0.863	0.867	0.863
735	998.0	0.864	0.860	0.863	0.859
740	0.861	098.0	0.856	0.859	0.856
745	0.864	0.861	0.857	0.861	0.856
750	0.869	0.866	0.863	998.0	0.862
755	0.873	0.870	0.867	0.869	0.866
092	0.877	0.874	0.871	0.873	0.869
765	0.879	0.877	0.873	0.876	0.872
770	0.880	0.878		0.877	0.873
775	0.880	0.878		0.877	0.873
780	0.879	0.877		0.876	0.873
785	0.877	0.875	0.871	0.874	0.871

PE	RKIN ELMER I	AMBDA 9 - BR	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	/OEO)	
		SA	SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.875	0.873	0.870	0.872	0.869
795	0.874	0.872	0.867	0.871	0.867
008	0.873	0.871	0.868	0.870	0.866
802	0.873	0.871	0.869	0.871	0.867
810	0.875	0.873	0.870	0.872	0.869
815	0.878	0.875	0.873	0.875	0.871
820	0.880	0.878	0.875	0.877	0.874
825	0.881	0.880	0.878	0.879	0.875
830	0.882	0.881	0.878	0.881	0.878
835	0.880	0.881	0.879	0.880	0.879
840	0.878	0.880	0.878	0.880	0.879
845	0.876	0.878	0.878	0.878	0.878
820	0.869	0.871	0.872	0.873	0.873
855	0.855	0.861	0.862	0.861	0.863
098	0.845	0.842	0.844	0.844	0.845
865	0.848	0.826	0.797	0.818	0.787
870	0.839	0.816	0.788	0.80	0.778
875	0.849	0.826	0.798	0.819	0.788
088	0.864	0.840	0.811	0.833	0.801
885	0.871	0.847	0.819	0.841	0.808
068	0.870	0.847	0.818	0.839	0.807
895	0.862	0.840	0.812	0.832	0.800
006	0.848	0.826	0.798	0.818	0.787
905	0.829	0.808	0.781	0.800	0.769
910	0.814	0.793	0.766	0.785	0.756
915	0.840	0.818	0.790	0.811	0.781
920	0.864	0.842	0.813	0.834	0.803
925	0.876	0.854	0.825	0.846	0.815
930	0.882	0.860	0.831	0.852	0.820
935	0.885	0.862	0.833	0.854	0.823
940	0.886	0.864	0.836	0.856	0.825
945	0.888	0.865	0.837	0.857	0.825
950	0.888	998.0	0.837	0.858	0.827

			SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.79	0.79	0.788	0.792	0.781
455	0.792	0.792	0.79	0.795	0.783
460	0.794	0.794	0.791	962'0	0.784
465	0.801	0.801	0.798	0.804	0.791
470	0.807	0.807	0.805	0.809	0.797
475	0.807	908.0	0.804	0.808	0.797
480	908.0	0.805	0.802	0.807	0.796
485	0.811	0.811	808.0	0.814	0.801
490	0.818	0.818	0.815	0.82	0.807
495	0.819	0.817	0.816	0.82	0.808
200	0.816	0.815	0.813	0.817	0.806
202	0.816	0.817	0.814	0.819	0.807
510	0.821	0.821	0.819	0.824	0.812
515	0.824	0.824	0.821	0.826	0.814
520	0.823	0.821	0.819	0.823	0.812
525	0.82	0.819	0.816	0.821	0.809
530	0.82	0.821	0.818	0.823	0.811
535	0.826	0.825	0.821	0.827	0.815
540	0.828	0.826	0.824	0.829	0.817
545	0.825	0.823	0.821	0.825	0.814
550	0.821	0.819	0.817	0.821	0.81
555	0.82	0.819	0.816	0.821	0.81
260	0.824	0.823	0.82	0.825	0.813
565	0.828	0.826	0.824	0.829	0.817
570	0.829	0.827	0.825	0.83	0.819
575	0.828	0.825	0.824	0.828	0.817
280	0.826	0.824	0.821	0.826	0.815
585	0.826	0.824	0.821	0.826	0.816
290	0.829	0.828	0.824	0.83	0.818
595	0.833	0.832	0.829	0.834	0.821
009	0.835	0.834	0.831	0.836	0.824
905	0.836	0.833	0.831	0.836	0.824
610	0.836	0.833	0.831	0.835	0.823
517	7000	1000	0000	2000	1000

	MANAGEMENT OF STREET STREET, S		0 2000		
		SA	SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.839	0.838	0.835	0.84	0.828
625	0.844	0.843	0.84	0.846	0.832
089	0.85	0.843	0.845	0.851	0.838
635	0.855	0.853	0.85	0.856	0.843
640	0.857	0.854	0.853	0.858	0.845
645	0.857	0.855	0.853	0.858	0.845
029	0.857	0.855	0.853	0.858	0.845
655	0.859	0.857	0.854	98.0	0.847
099	0.861	98.0	0.857	0.863	0.85
999	0.866	0.865	0.861	0.868	0.854
029	698.0	0.868	0.865	0.872	0.857
929	0.872	0.871	0.868	0.874	0.86
089	0.872	0.871	0.868	0.874	0.861
989	0.872	0.87	0.868	0.873	0.86
069	0.871	0.869	0.866	0.872	0.858
969	0.869	0.868	0.865	0.87	0.857
200	0.869	0.868	0.864	0.87	0.857
705	0.868	0.868	0.865	0.87	0.857
710	0.871	0.87	0.866	0.872	0.859
715	0.875	0.875	0.871	0.877	0.864
720	0.877	0.877	0.874	0.88	0.866
725	0.877	0.876	0.874	0.879	0.866
730	0.875	0.874	0.871	0.876	0.864
735	0.871	0.869	0.867	0.872	0.86
740	0.868	0.866	0.863	0.868	0.856
745	0.866	0.865	0.863	0.867	0.854
750	0.871	0.871	0.868	0.873	0.86
755	. 0.875	0.874	0.872	0.877	0.864
092	0.877	0.877	0.875	0.88	0.866
765	0.881	0.88	0.877	0.883	0.869
170	0.882	0.882	0.879	0.885	0.872
775	0.883	0.883	0.88	0.885	0.872
180	0.882	0.882	0.879	0.885	0.872
287	0 001	000	mm0 0	0000	1000

	HITACHI U-2000	- POLYCAST TI	HITACHI U-2000 - POLYCAST TECHNOLOGY CORPORATION	ORPORATION	
			SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.879	0.877	0.876	0.881	0.869
795	0.877	0.877	0.874	0.879	0.867
800	0.876	0.875	0.874	0.877	0.866
802	0.876	0.875	0.873	0.877	0.865
810	0.876	0.877	0.874	0.879	0.866
815	0.878	0.879	0.875	0.881	0.868
820	0.881	0.881	0.877	0.884	0.871
825	0.883	0.882	0.879	0.885	0.872
830	0.883	0.883	0.881	0.886	0.873
835	0.883	0.882	0.88	0.885	0.872
840	0.881	0.881	0.878	0.884	0.871
845	0.877	0.877	0.875	0.88	0.867
850	0.871	0.87	0.868	0.872	0.86
855	98.0	98.0	0.857	0.862	0.85
098	0.845	0.844	0.842	0.847	0.835
865	0.824	0.824	0.821	0.826	0.815
870	0.819	0.819	0.816	0.822	0.81
875	0.836	0.836	0.834	0.839	0.827
880	0.85	0.849	0.847	0.851	0.839
885	0.854	0.854	0.851	0.857	0.844
068	0.851	0.85	0.848	0.853	0.84
895	0.843	0.84	0.839	0.844	0.832
006	0.827	0.824	0.823	0.829	0.816
905	0.807	0.805	0.803	0.809	0.797
910	0.8	0.798	0.797	0.801	0.79
915	0.835	0.833	0.832	0.836	0.825
920	0.854	0.852	0.85	0.855	0.843
925	0.865	0.861	98.0	0.865	0.853
930		0.866	0.865	0.869	0.857
935		0.868	0.866	0.872	0.86
940		698.0	0.868	0.873	0.861
945	0.873	698.0	0.868	0.874	0.862
950		0.87	0.868	0.873	0.861

wavelength (nm) 450 450 465 465 470 475 480 485 480 495 500 500 500 500 500 500 500 500 500 5			l		
			SAMPLE 2		
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
	0.809	0.819	0.801	0.807	0.802
	0.819	0.828	0.810	0.817	0.812
	0.830	0.843	0.816	0.821	0.816
470 475 480 480 490 495 500 500 505 510 510 510 520 520 520 525 530	0.830	0.837	0.828	0.832	0.828
475 480 485 490 495 500 505 510 510 515 520 520 530 530	0.834	0.840	0.827	0.834	0.827
480 485 490 495 500 505 510 515 520 525 535	0.838	0.844	0.828	0.835	0.828
485 490 495 500 505 510 510 520 520 530 535	0.840	0.846	0.829	0.835	0.828
490 495 500 500 510 510 520 520 520 530	0.838	0.845	0.831	0.838	0.828
495 500 505 510 515 520 525 530 535	0.844	0.847	0.835	0.842	0.834
500 505 510 510 520 525 530 530	0.844	0.850	0.838	0.844	0.840
505 510 515 520 525 530 530	0.844	0.851	0.838	0.844	0.839
510 515 520 525 535 530	0.843	0.847	0.836	0.842	0.832
515 520 525 530 535	0.845	0.849	0.838	0.842	0.834
520 525 530 530	0.849	0.851	0.841	0.846	0.839
525 530 535	0.851	0.852	0.841	0.846	0.840
530	0.845	0.849	0.836	0.841	0.836
535	0.846	0.849	0.835	0.841	0.837
	0.847	0.850	0.838	0.843	0.837
540	0.849	0.854	0.841	0.846	0.840
545	0.849	0.852	0.840	0.844	0.840
550	0.847	0.849	0.837	0.843	0.840
555	0.844	0.846	0.834	0.839	0.839
260	0.844	0.846	0.834	0.841	0.844
565	0.848	0.850	0.838	0.845	0.847
570	0.849	0.852	0.839	0.846	0.843
575	0.851	0.855	0.840	0.847	0.844
280	0.849	0.853	0.837	0.846	0.844
585	0.847	0.851	0.836	0.844	0.844
590	0.849	0.852	0.838	0.844	0.846
595	0.852	0.855	0.841	0.847	0.850
009	0.857	0.859	0.844	0.852	0.856
909	0.856	0.860	0.845	0.853	0.856
610	0.857	0.860	0.844	0.852	0.857
615	0.860	0.862	0.847	0.855	0.861

OP	TRONICS MOL	OPTRONICS MODEL 736 RADIOMETER -		TEXSTAR,INC.	
			SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.864	0.866	0.851	098.0	0.865
625	0.869	0.871	0.855	0.865	0.869
630	0.875	0.875	0.861	698.0	0.875
635	0.880	0.882	998.0	0.875	0.881
640	0.884	0.885	0.869	0.877	0.883
645	0.884	0.886	0.870	0.877	0.885
059	0.884	0.885	0.870	0.877	0.886
655	0.887	0.886	0.871	0.879	0.888
099	0.889	0.888	0.874	0.880	0.890
999	0.891	0.890	0.877	0.883	0.894
0.09	0.895	0.895	0.879	0.887	0.896
675	0.899	0.898	0.884	0.890	0.899
089	0.901	0.900	0.887	0.891	0.903
685	0.900	0.900	0.886	0.891	0.901
069	0.902	0.900	0.886	0.891	0.902
695	0.900	0.899	0.885	0.890	0.901
200	0.897	0.897	0.884	0.888	0.897
705	0.895	968.0	0.880	0.885	0.896
710	0.897	0.898	0.883	0.888	0.897
715	0.903	0.902	0.889	0.891	0.900
720	906.0	0.907	0.891	968.0	0.905
725	0.903	0.903	0.890	968.0	0.903
730	0.905	906.0	0.890	0.896	0.904
735	0.902	0.901	0.887	0.891	0.899
740	0.896	0.897	0.880	0.886	0.893
745	0.895	0.896	0.880	0.885	0.892
750	0.898	0.902	0.885	0.890	0.897
755	0.900	0.902	0.886	0.893	0.898
160	0.904	0.907	0.891	968.0	0.903
765	0.908	0.909	0.893	0.900	0.905
770	0.910	0.911	0.894	0.902	0.907
775	0.912	0.913	968.0	0.904	0.908
780	0.913	0.913	0.899	0.904	0.909
785	0.912	0.914	0.897	0.904	0.911

wavelength Rep. 1 Rep. 2 Rep. 3 Rep. 4 Rep. 4 Rep. 5 Rep. 3 Rep. 4 Rep. 3 Rep	do	OPTRONICS MODEL 736 RADIOMETER -	EL 736 RADIO		TEXSTAR,INC.	
Rep. 1 Rep. 2 Rep. 3 Rep. 4 I (trans.)			SA	MPLE 2		
(trans.) (trans.)	wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
0.910 0.910 0.895 0.901 0.909 0.894 0.899 0.908 0.909 0.891 0.899 0.908 0.909 0.891 0.898 0.907 0.908 0.891 0.898 0.907 0.908 0.891 0.898 0.911 0.909 0.894 0.901 0.912 0.912 0.892 0.903 0.913 0.911 0.894 0.903 0.912 0.912 0.894 0.903 0.913 0.911 0.892 0.903 0.912 0.911 0.892 0.903 0.913 0.911 0.893 0.901 0.914 0.910 0.893 0.903 0.915 0.910 0.893 0.903 0.916 0.891 0.892 0.903 0.816 0.882 0.892 0.892 0.824 0.824 0.824 0.863 0.824 0.824 0.	(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.909 0.894 0.899 0.908 0.893 0.899 0.908 0.909 0.893 0.899 0.907 0.909 0.891 0.898 0.907 0.908 0.891 0.893 0.907 0.908 0.894 0.903 0.911 0.912 0.893 0.903 0.913 0.911 0.895 0.903 0.914 0.911 0.895 0.903 0.912 0.913 0.903 0.893 0.903 0.912 0.914 0.914 0.893 0.903 0.912 0.913 0.893 0.893 0.803 0.914 0.914 0.893 0.893 0.803 0.915 0.894 0.895 0.804 0.804 0.820 0.842 0.842 0.843 0.844 0.843 0.843 0.863 0.844 0.844 0.843 0.863 0.844 0.843 0.843 <t< td=""><td>190</td><td>0.910</td><td>0.910</td><td>0.895</td><td>0.901</td><td>0.909</td></t<>	190	0.910	0.910	0.895	0.901	0.909
0.908 0.909 0.893 0.899 0.907 0.907 0.891 0.898 0.908 0.908 0.891 0.898 0.908 0.908 0.891 0.891 0.907 0.908 0.894 0.801 0.911 0.895 0.903 0.912 0.895 0.903 0.913 0.911 0.895 0.903 0.912 0.911 0.895 0.903 0.912 0.911 0.892 0.903 0.912 0.911 0.892 0.903 0.912 0.911 0.893 0.803 0.912 0.911 0.893 0.803 0.912 0.911 0.882 0.863 0.902 0.903 0.803 0.804 0.820 0.820 0.823 0.863 0.840 0.842 0.863 0.863 0.842 0.842 0.863 0.863 0.842 0.842 0.863	795	0.909	0.909	0.894	0.899	0.906
0.907 0.907 0.891 0.898 0.908 0.908 0.891 0.897 0.907 0.908 0.891 0.897 0.911 0.909 0.894 0.903 0.914 0.912 0.895 0.903 0.913 0.911 0.895 0.903 0.912 0.911 0.893 0.901 0.912 0.911 0.893 0.901 0.912 0.911 0.893 0.902 0.912 0.911 0.893 0.902 0.912 0.911 0.893 0.902 0.912 0.911 0.893 0.804 0.912 0.911 0.893 0.804 0.889 0.869 0.894 0.873 0.879 0.874 0.853 0.863 0.879 0.874 0.854 0.863 0.824 0.875 0.863 0.863 0.829 0.824 0.864 0.863 0.896 0.	800	0.908	0.909	0.893	0.899	0.906
0.908 0.908 0.891 0.897 0.907 0.908 0.891 0.898 0.911 0.909 0.894 0.901 0.914 0.912 0.895 0.903 0.913 0.911 0.895 0.903 0.912 0.911 0.895 0.901 0.912 0.911 0.893 0.901 0.912 0.910 0.892 0.902 0.912 0.916 0.892 0.902 0.912 0.916 0.882 0.893 0.908 0.897 0.882 0.884 0.870 0.882 0.882 0.862 0.874 0.874 0.884 0.863 0.874 0.874 0.884 0.863 0.875 0.874 0.884 0.863 0.826 0.824 0.863 0.863 0.827 0.828 0.864 0.863 0.828 0.824 0.863 0.829 0.863 0.	808	0.907	0.907	0.891	0.898	0.904
0.907 0.908 0.891 0.898 0.911 0.909 0.894 0.901 0.914 0.912 0.895 0.901 0.913 0.911 0.895 0.903 0.912 0.911 0.895 0.901 0.912 0.910 0.892 0.902 0.908 0.906 0.892 0.902 0.889 0.887 0.889 0.889 0.870 0.871 0.872 0.841 0.870 0.874 0.872 0.841 0.874 0.874 0.873 0.863 0.874 0.878 0.863 0.863 0.874 0.878 0.863 0.863 0.879 0.874 0.873 0.863 0.876 0.874 0.874 0.873 0.824 0.874 0.874 0.873 0.825 0.824 0.806 0.843 0.829 0.824 0.824 0.864 0.896 0.	810	0.908	0.908	0.891	0.897	0.904
0.911 0.909 0.894 0.901 0.914 0.912 0.895 0.903 0.913 0.911 0.895 0.903 0.912 0.911 0.895 0.901 0.912 0.910 0.892 0.901 0.908 0.906 0.892 0.902 0.889 0.887 0.889 0.889 0.870 0.871 0.872 0.871 0.870 0.874 0.872 0.841 0.874 0.874 0.873 0.863 0.874 0.874 0.873 0.863 0.874 0.878 0.863 0.863 0.875 0.874 0.873 0.863 0.876 0.874 0.873 0.863 0.876 0.874 0.874 0.873 0.824 0.875 0.863 0.863 0.825 0.824 0.874 0.843 0.876 0.886 0.874 0.884 0.896 0.	815	0.907	0.908	0.891	0.898	0.905
0.914 0.912 0.895 0.903 0.913 0.911 0.895 0.903 0.912 0.911 0.892 0.901 0.912 0.910 0.892 0.902 0.908 0.906 0.890 0.898 0.901 0.889 0.869 0.878 0.889 0.888 0.869 0.878 0.870 0.887 0.867 0.861 0.870 0.887 0.852 0.861 0.870 0.887 0.853 0.863 0.874 0.887 0.863 0.863 0.874 0.878 0.863 0.863 0.875 0.876 0.875 0.863 0.876 0.875 0.863 0.863 0.876 0.876 0.875 0.863 0.829 0.824 0.863 0.863 0.829 0.829 0.875 0.863 0.899 0.899 0.897 0.883 0.899 0.	820	0.911	0.909	0.894	0.901	0.907
0.913 0.911 0.895 0.903 0.912 0.911 0.892 0.901 0.912 0.910 0.892 0.902 0.908 0.906 0.890 0.898 0.901 0.889 0.882 0.890 0.889 0.888 0.869 0.878 0.870 0.871 0.852 0.861 0.870 0.873 0.841 0.878 0.870 0.887 0.853 0.861 0.874 0.874 0.853 0.863 0.874 0.874 0.853 0.863 0.874 0.875 0.863 0.863 0.875 0.875 0.863 0.863 0.876 0.875 0.863 0.863 0.876 0.875 0.863 0.863 0.829 0.824 0.863 0.863 0.829 0.875 0.863 0.863 0.896 0.897 0.881 0.884 0.899 0.	825	0.914	0.912	0.895	0.903	0.910
0.912 0.911 0.893 0.901 0.912 0.910 0.892 0.902 0.908 0.906 0.890 0.898 0.901 0.889 0.889 0.890 0.889 0.889 0.878 0.878 0.870 0.887 0.862 0.878 0.870 0.871 0.852 0.841 0.846 0.848 0.827 0.850 0.874 0.873 0.863 0.863 0.879 0.874 0.853 0.863 0.879 0.875 0.863 0.863 0.879 0.875 0.863 0.863 0.876 0.876 0.883 0.863 0.826 0.876 0.883 0.863 0.826 0.826 0.863 0.863 0.829 0.824 0.836 0.843 0.829 0.826 0.836 0.843 0.839 0.889 0.876 0.884 0.899 0.	830	0.913	0.911	0.895	0.903	0.910
0.912 0.910 0.892 0.902 0.908 0.906 0.890 0.898 0.901 0.888 0.869 0.878 0.889 0.887 0.861 0.878 0.870 0.871 0.852 0.861 0.870 0.879 0.872 0.841 0.846 0.872 0.832 0.841 0.874 0.873 0.850 0.850 0.879 0.874 0.853 0.853 0.879 0.874 0.853 0.863 0.876 0.875 0.863 0.863 0.876 0.875 0.863 0.863 0.826 0.874 0.873 0.803 0.827 0.824 0.803 0.803 0.829 0.824 0.803 0.803 0.829 0.824 0.806 0.812 0.829 0.824 0.806 0.843 0.891 0.892 0.869 0.875 0.892 0.	835	0.912	0.911	0.893	0.901	0.908
0.908 0.906 0.890 0.898 0.901 0.887 0.889 0.890 0.889 0.888 0.869 0.878 0.870 0.871 0.852 0.861 0.870 0.873 0.871 0.872 0.871 0.870 0.872 0.873 0.873 0.873 0.874 0.874 0.873 0.863 0.863 0.879 0.874 0.875 0.867 0.867 0.879 0.875 0.863 0.867 0.867 0.876 0.875 0.863 0.863 0.863 0.826 0.867 0.862 0.863 0.863 0.829 0.828 0.863 0.863 0.863 0.829 0.826 0.863 0.863 0.863 0.899 0.899 0.896 0.876 0.881 0.899 0.896 0.876 0.881 0.881 0.899 0.899 0.876 0.881 0.881	840	0.912	0.910	0.892	0.902	0.905
0.901 0.897 0.882 0.890 0.889 0.888 0.869 0.878 0.870 0.871 0.852 0.861 0.870 0.872 0.841 0.846 0.832 0.836 0.846 0.874 0.873 0.850 0.879 0.874 0.853 0.867 0.879 0.875 0.863 0.863 0.879 0.875 0.863 0.863 0.876 0.875 0.863 0.863 0.876 0.875 0.863 0.863 0.876 0.876 0.863 0.863 0.879 0.880 0.809 0.843 0.879 0.889 0.869 0.843 0.899 0.890 0.875 0.881 0.899 0.899 0.876 0.881 0.899 0.899 0.876 0.881 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.	845	0.908	906.0	0.890	0.898	0.902
0.889 0.888 0.869 0.878 0.870 0.871 0.852 0.861 0.850 0.850 0.841 0.841 0.846 0.887 0.836 0.836 0.874 0.874 0.853 0.863 0.879 0.878 0.863 0.863 0.879 0.875 0.863 0.863 0.846 0.875 0.863 0.863 0.846 0.842 0.863 0.863 0.826 0.867 0.863 0.863 0.829 0.824 0.863 0.863 0.829 0.824 0.863 0.863 0.829 0.828 0.863 0.863 0.879 0.889 0.869 0.843 0.896 0.897 0.876 0.881 0.899 0.899 0.876 0.884 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884 0.899 0.	820	0.901	0.897	0.882	0.890	0.896
0.870 0.871 0.852 0.861 0.850 0.850 0.832 0.841 0.846 0.848 0.827 0.836 0.862 0.873 0.850 0.874 0.874 0.850 0.879 0.878 0.867 0.879 0.875 0.867 0.846 0.846 0.824 0.863 0.826 0.824 0.863 0.827 0.824 0.863 0.828 0.824 0.863 0.829 0.824 0.863 0.829 0.824 0.863 0.829 0.829 0.863 0.890 0.891 0.895 0.863 0.896 0.897 0.876 0.881 0.899 0.896 0.875 0.884 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884 0.899 0.899	855	0.889	0.888	698.0	0.878	0.886
0.850 0.850 0.832 0.841 0.846 0.848 0.827 0.836 0.862 0.842 0.850 0.856 0.874 0.873 0.863 0.863 0.879 0.878 0.867 0.867 0.867 0.846 0.846 0.824 0.851 0.851 0.826 0.824 0.809 0.812 0.812 0.859 0.828 0.809 0.843 0.843 0.859 0.824 0.809 0.812 0.812 0.859 0.862 0.863 0.843 0.863 0.879 0.889 0.896 0.843 0.863 0.896 0.897 0.876 0.881 0.881 0.897 0.897 0.876 0.884 0.899 0.898 0.875 0.884 0.899 0.898 0.875 0.884 0.899 0.898 0.876 0.883 0.899 0.898 0.875	098	0.870	0.871	0.852	0.861	0.866
0.846 0.848 0.827 0.836 0.862 0.842 0.850 0.874 0.873 0.863 0.879 0.878 0.863 0.879 0.875 0.863 0.879 0.875 0.863 0.846 0.846 0.824 0.832 0.826 0.824 0.803 0.803 0.829 0.824 0.803 0.812 0.829 0.828 0.806 0.812 0.879 0.880 0.843 0.891 0.895 0.863 0.896 0.897 0.874 0.897 0.876 0.881 0.898 0.897 0.876 0.899 0.896 0.876 0.899 0.896 0.876 0.899 0.897 0.876 0.899 0.896 0.887 0.899 0.896 0.887 0.899 0.899 0.894 0.899 0.899 0.899	865	0.850	0.850	0.832	0.841	0.844
0.862 0.862 0.842 0.850 0.874 0.873 0.863 0.863 0.879 0.878 0.863 0.867 0.879 0.875 0.863 0.863 0.879 0.875 0.863 0.863 0.846 0.842 0.851 0.832 0.824 0.824 0.832 0.809 0.829 0.828 0.806 0.812 0.879 0.880 0.857 0.863 0.891 0.869 0.875 0.863 0.896 0.897 0.880 0.875 0.899 0.897 0.881 0.881 0.899 0.899 0.875 0.881 0.899 0.899 0.875 0.881 0.899 0.899 0.875 0.881 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884	870	0.846	0.848	0.827	0.836	0.840
0.874 0.873 0.863 0.879 0.878 0.858 0.867 0.879 0.875 0.856 0.863 0.866 0.867 0.863 0.863 0.846 0.842 0.851 0.824 0.824 0.832 0.829 0.828 0.809 0.859 0.862 0.843 0.879 0.880 0.857 0.863 0.891 0.869 0.875 0.880 0.896 0.897 0.881 0.881 0.899 0.899 0.875 0.881 0.899 0.899 0.875 0.881 0.899 0.899 0.875 0.881 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884	875	0.862	0.862	0.842	0.850	0.855
0.879 0.878 0.867 0.879 0.875 0.856 0.863 0.866 0.867 0.842 0.851 0.846 0.824 0.832 0.826 0.824 0.832 0.829 0.828 0.809 0.859 0.862 0.836 0.843 0.879 0.880 0.857 0.863 0.891 0.869 0.875 0.880 0.896 0.897 0.874 0.880 0.899 0.899 0.876 0.881 0.899 0.899 0.876 0.881 0.899 0.899 0.876 0.881 0.899 0.899 0.875 0.881 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884	880	0.874	0.874	0.853	0.863	0.867
0.879 0.875 0.865 0.863 0.866 0.867 0.842 0.851 0.846 0.846 0.824 0.832 0.826 0.824 0.809 0.829 0.828 0.806 0.812 0.879 0.880 0.843 0.843 0.879 0.880 0.857 0.863 0.896 0.897 0.875 0.880 0.896 0.897 0.874 0.881 0.897 0.876 0.881 0.881 0.899 0.898 0.876 0.881 0.899 0.898 0.876 0.881 0.899 0.898 0.875 0.881 0.899 0.899 0.875 0.884 0.899 0.898 0.875 0.884	885	0.879	0.878	0.858	0.867	0.872
0.866 0.867 0.842 0.851 0.846 0.824 0.824 0.832 0.826 0.828 0.809 0.812 0.859 0.862 0.843 0.812 0.879 0.880 0.836 0.843 0.879 0.881 0.863 0.863 0.891 0.874 0.880 0.896 0.897 0.874 0.880 0.897 0.896 0.875 0.881 0.897 0.896 0.876 0.881 0.899 0.896 0.876 0.881 0.899 0.896 0.876 0.881 0.899 0.899 0.875 0.884 0.899 0.899 0.875 0.884	068	0.879	0.875	0.856	0.863	0.871
0.846 0.824 0.832 0.826 0.824 0.803 0.809 0.829 0.828 0.806 0.812 0.859 0.862 0.836 0.843 0.879 0.880 0.863 0.863 0.891 0.897 0.875 0.880 0.896 0.897 0.876 0.881 0.897 0.896 0.876 0.881 0.897 0.896 0.876 0.881 0.899 0.896 0.876 0.881 0.899 0.896 0.875 0.884 0.899 0.898 0.875 0.884	895	0.866	0.867	0.842	0.851	0.859
0.826 0.824 0.803 0.809 0.829 0.828 0.806 0.812 0.859 0.862 0.836 0.843 0.879 0.887 0.863 0.843 0.891 0.897 0.875 0.875 0.898 0.897 0.876 0.881 0.897 0.876 0.881 0.897 0.876 0.881 0.899 0.896 0.875 0.881 0.899 0.898 0.875 0.884 0.899 0.898 0.875 0.884	006	0.846	0.846	0.824	0.832	0.840
0.829 0.828 0.806 0.812 0.859 0.862 0.836 0.843 0.879 0.880 0.857 0.863 0.891 0.892 0.875 0.875 0.896 0.897 0.874 0.880 0.898 0.876 0.881 0.897 0.896 0.875 0.881 0.899 0.896 0.875 0.884 0.899 0.898 0.875 0.884 0.899 0.898 0.875 0.884	506	0.826	0.824	0.803	0.80	0.818
0.859 0.862 0.836 0.843 0.843 0.879 0.880 0.857 0.863 0.863 0.891 0.897 0.875 0.875 0.880 0.898 0.898 0.876 0.881 0.881 0.899 0.896 0.875 0.884 0.884 0.899 0.898 0.875 0.884 0.884	910	0.829	0.828	908.0	0.812	0.821
0.879 0.880 0.857 0.863 0.891 0.899 0.875 0.875 0.896 0.897 0.874 0.880 0.898 0.876 0.881 0.897 0.875 0.881 0.899 0.898 0.875 0.884 0.899 0.898 0.876 0.883	915	0.859	0.862	0.836	0.843	0.851
0.891 0.895 0.875 0.896 0.897 0.874 0.880 0.898 0.898 0.876 0.881 0.897 0.896 0.875 0.881 0.899 0.898 0.875 0.884 0.899 0.898 0.876 0.884	920	0.879	0.880	0.857	0.863	0.871
0.896 0.897 0.874 0.880 0.898 0.898 0.876 0.881 0.897 0.896 0.875 0.881 0.899 0.898 0.875 0.884 0.899 0.898 0.876 0.883	925	0.891	0.891	698.0	0.875	0.883
0.898 0.898 0.876 0.881 0.897 0.896 0.875 0.881 0.899 0.898 0.875 0.884 0.899 0.898 0.876 0.883	930	968.0	0.897	0.874	0.880	0.889
0.897 0.896 0.875 0.881 0.899 0.898 0.875 0.884 0.899 0.898 0.876 0.883	935	0.898	0.898	0.876	0.881	0.891
0.899 0.898 0.875 0.884 0.899 0.898 0.876 0.883	940	0.897	968.0	0.875	0.881	0.890
0.899 0.898 0.876 0.883	945	0.899	0.898	0.875	0.884	0.894
	950	0.899	0.898	0.876	0.883	0.893

UV	VISANIR SPECT	IROPHOTOM	UV/VIS/NIR SPECTROPHOTOMETER - SIERRACIN/SYLMAR CORP.	IN/SYLMAR CO	ORP.
			SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.769	0.765	0.767	0.766	0.763
455	0.771	0.767	0.768	0.767	0.764
460	0.774	0.770	0.771	0.770	0.770
465	0.783	0.778	0.781	0.778	0.777
470	0.789	0.784	0.786	0.783	0.779
475	0.787	0.782	0.783	0.782	0.779
480	0.788	0.785	0.787	0.784	0.784
485	0.796	0.792	0.794	0.793	0.792
490	0.801	0.797	0.799	0.797	0.794
495	0.800	0.796	0.798	0.796	0.793
200	0.799	0.795	0.797	0.794	0.793
505	0.802	0.798	0.801	0.798	0.798
510	0.807	0.803	908.0	0.803	0.802
515	0.809	0.805	908.0	0.804	0.801
520	0.806	0.801	0.804	0.801	0.799
525	0.805	0.801	0.803	0.800	0.800
530	0.808	0.804	0.808	0.805	0.805
535	0.813	0.80	0.812	0.809	0.808
540	0.813	0.808	0.811	0.809	0.806
545	0.810	908.0	0.807	908.0	0.802
550	0.807	0.803	0.805	0.802	0.801
555	0.808	0.804	0.807	0.803	0.804
260	0.812	0.808	0.811	608.0	0.80
292	0.815	0.812	0.813	0.812	0.810
270	0.816	0.813	0.814	0.811	0.809
575	0.814	0.810	0.812	0.810	0.808
280	0.813	0.810	0.812	0.809	0.808
585	0.815	0.811	0.813	0.811	0.812
290	0.818	0.815	0.817	0.815	0.815
595	0.822	0.818	0.820	0.818	0.816
009	0.823	0.819	0.821	0.819	0.817
909	0.823	0.819	0.821	0.819	0.816
610	0.824	0.820	0.821	0.819	0.817
615	0.825	0.822	0.824	0.821	0.822

wavelength Rep. 1 Rep. 2 Rep. 3 Rep. 4 (mm) (trans.) (trans.) <th>NA I</th> <th>V/VIS/NIR SPEC</th> <th>UV/VIS/NIR SPECTROPHOTOMETER - SIERRACIN/SYLMAR CORP.</th> <th>STER - SIERRAC</th> <th>IN/SYLMAR CO</th> <th>ORP.</th>	NA I	V/VIS/NIR SPEC	UV/VIS/NIR SPECTROPHOTOMETER - SIERRACIN/SYLMAR CORP.	STER - SIERRAC	IN/SYLMAR CO	ORP.
Rep. 1 Rep. 2 Rep. 3 I (trans.)			SA	MPLE 2		
(trans.)	wavelength	Rep. 1			Rep. 4	Rep. 5
0.829 0.826 0.828 0.835 0.834 0.834 0.841 0.838 0.839 0.844 0.841 0.843 0.846 0.843 0.843 0.846 0.843 0.843 0.846 0.843 0.845 0.847 0.843 0.845 0.849 0.846 0.846 0.853 0.850 0.850 0.863 0.860 0.860 0.863 0.860 0.860 0.863 0.860 0.860 0.863 0.860 0.860 0.864 0.865 0.860 0.865 0.866 0.866 0.864 0.865 0.866 0.865 0.866 0.866 0.864 0.865 0.866 0.865 0.866 0.866 0.866 0.866 0.866 0.867 0.867 0.867 0.866 0.866 0.866 <td< td=""><td>(mu)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td></td<>	(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.835 0.832 0.834 0.841 0.838 0.839 0.844 0.841 0.843 0.846 0.843 0.843 0.846 0.843 0.843 0.847 0.843 0.848 0.849 0.846 0.848 0.853 0.852 0.852 0.863 0.860 0.860 0.863 0.860 0.860 0.863 0.860 0.860 0.863 0.860 0.860 0.863 0.860 0.860 0.864 0.860 0.860 0.865 0.860 0.860 0.864 0.865 0.866 0.865 0.865 0.866 0.864 0.865 0.866 0.865 0.866 0.866 0.866 0.866 0.866 0.867 0.866 0.866 0.866 0.866 0.866 0.867 0.866 0.866 <td< td=""><td>620</td><td>0.829</td><td>0.826</td><td>0.828</td><td>0.827</td><td>0.827</td></td<>	620	0.829	0.826	0.828	0.827	0.827
0.841 0.838 0.839 0.846 0.841 0.843 0.846 0.843 0.843 0.846 0.843 0.843 0.847 0.843 0.845 0.849 0.846 0.848 0.853 0.850 0.852 0.853 0.855 0.856 0.863 0.860 0.860 0.863 0.860 0.860 0.863 0.860 0.860 0.864 0.860 0.860 0.863 0.860 0.860 0.864 0.860 0.860 0.865 0.860 0.860 0.861 0.862 0.860 0.862 0.863 0.864 0.864 0.865 0.865 0.865 0.866 0.865 0.866 0.866 0.865 0.867 0.865 0.865 0.866 0.865 0.865 0.866 0.865 0.865 <th< td=""><td>625</td><td>0.835</td><td>0.832</td><td>0.834</td><td>0.832</td><td>0.833</td></th<>	625	0.835	0.832	0.834	0.832	0.833
0.844 0.841 0.843 0.846 0.843 0.843 0.846 0.843 0.843 0.849 0.843 0.845 0.849 0.846 0.848 0.849 0.846 0.848 0.853 0.850 0.852 0.863 0.857 0.860 0.863 0.860 0.860 0.864 0.865 0.866 0.865 0.865 0.867 0.867 0.865 0.865 0.869 0.865 0.866 0.869 0.866 0.865 0.867 0.866 0.865 0.869 0.866 0.865 0.860 0.865 0.865 0.861 0.866 0.865 0.862 0.866 0.865 0.863 0.865 0.865 0.864 0.865 0.865 0.865 0.866 0.865 0.866 0.866 0.865 0.867 0.865 0.865 0.869 0.866 0.866	630	0.841	0.838	0.839	0.838	0.837
0.846 0.843 0.844 0.846 0.843 0.845 0.847 0.843 0.845 0.849 0.846 0.848 0.853 0.850 0.852 0.858 0.855 0.856 0.863 0.865 0.866 0.863 0.860 0.860 0.864 0.865 0.866 0.865 0.866 0.867 0.867 0.865 0.867 0.869 0.865 0.866 0.867 0.866 0.867 0.869 0.866 0.865 0.867 0.866 0.865 0.867 0.865 0.865 0.869 0.866 0.865 0.860 0.865 0.865 0.861 0.865 0.865 0.862 0.865 0.865 0.863 0.865 0.865 0.864 0.865 0.865 0.865 0.865 0.865 0.866 0.867 0.865 0.867 0.867 0.865	635	0.844	0.841	0.843	0.840	0.838
0.846 0.843 0.843 0.847 0.845 0.845 0.849 0.846 0.848 0.853 0.855 0.856 0.858 0.857 0.860 0.861 0.860 0.860 0.863 0.860 0.860 0.863 0.860 0.860 0.864 0.857 0.860 0.865 0.860 0.860 0.861 0.857 0.860 0.862 0.863 0.861 0.863 0.864 0.865 0.864 0.865 0.865 0.865 0.866 0.867 0.869 0.865 0.865 0.869 0.866 0.865 0.869 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.866	640	0.846	0.843	0.844	0.842	0.839
0.847 0.843 0.845 0.849 0.846 0.848 0.853 0.850 0.852 0.858 0.857 0.860 0.861 0.862 0.860 0.863 0.860 0.860 0.864 0.860 0.860 0.863 0.860 0.860 0.864 0.857 0.860 0.865 0.866 0.861 0.866 0.859 0.861 0.867 0.867 0.867 0.869 0.868 0.867 0.869 0.866 0.867 0.869 0.865 0.865 0.869 0.865 0.865 0.869 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865	645	0.846	0.843	0.843	0.842	0.840
0.849 0.846 0.848 0.853 0.850 0.852 0.858 0.855 0.856 0.861 0.857 0.860 0.862 0.860 0.860 0.863 0.860 0.860 0.864 0.859 0.860 0.865 0.857 0.860 0.861 0.857 0.860 0.862 0.857 0.860 0.863 0.864 0.865 0.864 0.865 0.865 0.865 0.866 0.865 0.866 0.866 0.865 0.867 0.866 0.865 0.869 0.865 0.865 0.860 0.866 0.865 0.860 0.866 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865	059	0.847	0.843	0.845	0.843	0.842
0.853 0.850 0.852 0.858 0.855 0.856 0.861 0.860 0.860 0.862 0.860 0.860 0.863 0.860 0.860 0.864 0.857 0.860 0.865 0.857 0.860 0.861 0.857 0.860 0.862 0.853 0.861 0.863 0.864 0.865 0.864 0.865 0.865 0.865 0.866 0.865 0.867 0.866 0.865 0.869 0.866 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.866 0.865 0.860 0.866 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.870 0.871 0.872 0.871 0.872 0.872	929	0.849	0.846	0.848	0.845	0.846
0.858 0.855 0.856 0.861 0.857 0.860 0.863 0.860 0.862 0.863 0.860 0.860 0.863 0.860 0.860 0.861 0.857 0.860 0.862 0.857 0.860 0.861 0.857 0.860 0.862 0.853 0.861 0.863 0.863 0.863 0.864 0.865 0.865 0.865 0.865 0.865 0.867 0.864 0.865 0.867 0.865 0.865 0.869 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.870 0.871 0.873 0.871 0.872 0.874 0.872 0.872 0.872	099	0.853	0.850	0.852	0.851	0.851
0.861 0.857 0.860 0.863 0.860 0.862 0.863 0.860 0.860 0.864 0.860 0.860 0.865 0.860 0.860 0.861 0.857 0.860 0.862 0.858 0.860 0.863 0.864 0.865 0.864 0.865 0.865 0.865 0.865 0.865 0.867 0.865 0.865 0.869 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.871 0.873 0.873 0.872 0.874 0.876 0.874 0.872 0.872	599	0.858	0.855	0.856	0.854	0.855
0.863 0.860 0.862 0.863 0.860 0.860 0.862 0.860 0.860 0.861 0.857 0.859 0.861 0.857 0.860 0.862 0.858 0.860 0.863 0.863 0.861 0.864 0.865 0.865 0.871 0.865 0.865 0.867 0.866 0.867 0.867 0.865 0.865 0.869 0.865 0.865 0.860 0.865 0.865 0.861 0.862 0.865 0.862 0.865 0.865 0.863 0.865 0.865 0.864 0.865 0.865 0.865 0.865 0.865 0.873 0.873 0.873 0.874 0.874 0.876 0.874 0.872 0.872	0.00	0.861	0.857	0.860	0.858	0.857
0.863 0.860 0.860 0.862 0.860 0.860 0.861 0.857 0.859 0.861 0.857 0.860 0.862 0.858 0.861 0.863 0.863 0.863 0.864 0.865 0.865 0.869 0.865 0.866 0.870 0.865 0.865 0.867 0.865 0.865 0.869 0.865 0.865 0.860 0.864 0.865 0.861 0.862 0.865 0.862 0.865 0.865 0.863 0.865 0.865 0.864 0.865 0.865 0.875 0.875 0.875 0.876 0.877 0.875 0.876 0.877 0.876 0.876 0.877 0.876 0.877 0.872 0.872	675	0.863	0.860	0.862	0.859	0.858
0.862 0.860 0.860 0.861 0.857 0.859 0.861 0.857 0.860 0.862 0.857 0.860 0.863 0.865 0.861 0.864 0.865 0.865 0.869 0.866 0.867 0.867 0.866 0.867 0.867 0.866 0.867 0.867 0.866 0.865 0.869 0.866 0.865 0.860 0.866 0.865 0.860 0.865 0.865 0.860 0.865 0.865 0.870 0.872 0.873 0.871 0.872 0.872 0.872 0.874 0.876 0.874 0.872 0.872	089	0.863	0.860	0.860	0.859	0.857
0.861 0.857 0.859 0.861 0.857 0.860 0.861 0.858 0.860 0.862 0.859 0.861 0.863 0.864 0.865 0.869 0.866 0.867 0.869 0.866 0.867 0.860 0.864 0.865 0.862 0.865 0.865 0.863 0.865 0.865 0.864 0.865 0.865 0.865 0.865 0.865 0.866 0.865 0.865 0.867 0.867 0.865 0.869 0.865 0.865 0.870 0.873 0.873 0.871 0.872 0.874 0.872 0.874 0.874 0.874 0.872 0.872	982	0.862	0.860	0.860	0.858	0.856
0.861 0.857 0.860 0.861 0.858 0.860 0.862 0.859 0.861 0.864 0.861 0.863 0.869 0.866 0.866 0.870 0.866 0.867 0.867 0.866 0.867 0.867 0.864 0.865 0.867 0.865 0.865 0.869 0.858 0.858 0.860 0.856 0.858 0.860 0.856 0.858 0.871 0.873 0.873 0.872 0.873 0.875 0.876 0.877 0.876 0.876 0.877 0.876 0.876 0.877 0.876 0.876 0.877 0.876 0.877 0.872 0.872	069	0.861	0.857	0.859	0.857	0.857
0.861 0.858 0.860 0.862 0.859 0.861 0.864 0.861 0.863 0.869 0.865 0.866 0.870 0.867 0.867 0.867 0.864 0.865 0.867 0.863 0.863 0.869 0.859 0.863 0.860 0.859 0.863 0.860 0.856 0.858 0.876 0.859 0.865 0.876 0.873 0.873 0.876 0.873 0.875 0.876 0.877 0.876 0.877 0.876 0.877 0.876 0.877 0.876 0.877 0.876 0.876 0.877 0.877 0.876	969	0.861	0.857	0.860	0.857	0.856
0.862 0.859 0.861 0.864 0.861 0.863 0.869 0.865 0.866 0.871 0.868 0.870 0.872 0.864 0.867 0.862 0.859 0.861 0.859 0.858 0.858 0.860 0.856 0.858 0.860 0.856 0.859 0.873 0.873 0.873 0.874 0.875 0.875 0.875 0.876 0.877 0.876 0.877 0.875 0.877 0.877 0.876 0.876 0.877 0.876 0.877 0.876 0.876 0.877 0.876 0.876 0.877 0.877 0.876	001	0.861	0.858	098.0	0.858	0.859
0.864 0.861 0.863 0.869 0.865 0.866 0.870 0.868 0.870 0.867 0.866 0.867 0.867 0.866 0.865 0.868 0.859 0.858 0.860 0.856 0.859 0.860 0.857 0.859 0.865 0.865 0.865 0.873 0.873 0.873 0.874 0.875 0.875 0.875 0.876 0.877 0.876 0.877 0.876 0.877 0.876 0.877 0.876 0.877 0.876 0.877 0.876 0.876	705	0.862	0.859	0.861	0.859	0.859
0.869 0.865 0.866 0.871 0.868 0.870 0.869 0.864 0.867 0.862 0.864 0.865 0.859 0.858 0.858 0.860 0.857 0.859 0.866 0.857 0.859 0.866 0.865 0.865 0.873 0.873 0.873 0.876 0.873 0.875 0.877 0.875 0.875 0.878 0.876 0.877 0.879 0.877 0.876 0.876 0.877 0.876 0.877 0.876 0.876	710	0.864	0.861	0.863	0.861	0.861
0.871 0.868 0.870 0.869 0.866 0.867 0.867 0.864 0.865 0.862 0.859 0.861 0.859 0.858 0.858 0.860 0.857 0.859 0.869 0.863 0.865 0.876 0.865 0.865 0.873 0.871 0.873 0.876 0.873 0.875 0.876 0.875 0.877 0.876 0.877 0.876 0.877 0.877 0.876 0.876 0.877 0.876 0.877 0.877 0.876 0.877 0.877 0.876	715	698.0	0.865	0.866	0.866	0.865
0.869 0.866 0.867 0.867 0.864 0.865 0.862 0.859 0.861 0.859 0.858 0.858 0.860 0.857 0.859 0.865 0.865 0.865 0.876 0.865 0.868 0.873 0.871 0.873 0.876 0.875 0.875 0.876 0.877 0.877 0.877 0.877 0.876 0.876 0.877 0.876 0.877 0.876 0.876	720	0.871	0.868	0.870	0.867	0.865
0.867 0.864 0.865 0.862 0.859 0.861 0.859 0.858 0.858 0.860 0.857 0.859 0.865 0.865 0.865 0.873 0.871 0.873 0.876 0.873 0.875 0.876 0.873 0.875 0.876 0.873 0.875 0.876 0.875 0.876 0.877 0.876 0.877 0.876 0.877 0.876 0.877 0.877 0.876 0.877 0.877 0.876	725	0.869	0.866	0.867	0.866	0.863
0.862 0.859 0.861 0.859 0.856 0.858 0.860 0.857 0.859 0.865 0.865 0.865 0.873 0.871 0.873 0.876 0.873 0.875 0.876 0.873 0.875 0.877 0.875 0.877 0.876 0.875 0.876 0.877 0.876 0.877 0.877 0.876 0.876 0.877 0.877 0.876	730	198.0	0.864	0.865	0.862	0.861
0.859 0.856 0.858 0.860 0.857 0.859 0.866 0.863 0.865 0.869 0.865 0.868 0.873 0.873 0.873 0.876 0.873 0.875 0.878 0.875 0.877 0.876 0.875 0.876 0.877 0.876 0.876 0.877 0.877 0.876	735	0.862	0.859	0.861	0.859	0.857
0.860 0.857 0.859 0.866 0.863 0.865 0.869 0.865 0.868 0.873 0.873 0.873 0.876 0.875 0.875 0.876 0.875 0.876 0.876 0.877 0.876 0.877 0.876 0.876 0.877 0.877 0.876	740	0.859	0.856	0.858	0.856	0.855
0.866 0.863 0.865 0.869 0.865 0.868 0.873 0.873 0.873 0.876 0.875 0.877 0.876 0.874 0.876 0.877 0.874 0.876 0.877 0.877 0.876 0.877 0.874 0.876	745	0.860	0.857	0.859	0.857	0.856
0.869 0.865 0.868 0.873 0.871 0.873 0.876 0.873 0.875 0.878 0.875 0.877 0.876 0.877 0.876 0.877 0.874 0.874 0.874 0.872 0.872	750	0.866	0.863	0.865	0.863	0.862
0.873 0.871 0.873 0.876 0.873 0.875 0.878 0.875 0.877 0.876 0.874 0.876 0.877 0.876 0.876 0.874 0.872 0.872	755	0.869	0.865	0.868	0.867	0.867
0.876 0.873 0.875 0.878 0.875 0.877 0.876 0.874 0.876 0.875 0.876 0.874 0.872 0.872	091	0.873	0.871	0.873	0.870	0.871
0.878 0.875 0.877 0.876 0.874 0.876 0.875 0.872 0.874 0.874 0.872 0.872	765	0.876	0.873	0.875	0.873	0.872
0.876 0.874 0.876 0.875 0.872 0.874 0.874 0.872 0.872	170	0.878	0.875	0.877	0.874	0.874
0.875 0.872 0.874 0.874 0.872 0.872	775	0.876	0.874	0.876	0.873	0.873
0.874 0.872 0.872	780	0.875	0.872	0.874	0.872	0.870
	785	0.874	0.872	0.872	0.870	0.869

	The same of the sa	TWO I TO I OW	TENUATO - NATA	OWNER STEELING HOLDINGTEN - SIERRACHYSTEINAN CONF.	OKF.
		SA	SAMPLE 2		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.873	0.870	0.872	698.0	0.867
795	0.871	0.868	0.869	0.868	0.867
800	0.871	0.867	698.0	0.867	0.867
805	0.871	698.0	0.871	198.0	0.868
810	0.872	0.870	0.872	0.868	0.869
815	0.875	0.871	0.874	0.872	0.873
820	0.878	0.875	0.877	0.873	0.874
825	0.877	0.875	0.877	0.876	0.876
830	0.881	0.878	0.879	0.876	0.874
835	0.880	0.878	0.878	0.876	0.873
840	0.878	0.875	0.876	0.874	0.871
845	0.872	0.867	0.870	698.0	0.868
850	0.865	098.0	0.865	0.863	0.861
855	0.853	0.851	0.856	0.853	0.852
098	0.838	0.836	0.838	0.834	0.835
865	0.825	0.832	0.835	0.820	0.822
870	0.833	0.830	0.831	0.822	0.823
875	0.832	0.835	0.842	0.836	0.838
088	0.864	0.854	0.862	0.849	0.853
885	0.863	0.864	0.864	0.855	0.856
068	0.855	0.853	0.858	0.850	0.849
895	0.845	0.847	0.849	0.841	0.839
006	0.829	0.825	0.830	0.822	0.824
905	0.811	0.808	0.813	0.802	0.802
910	0.801	0.804	0.808	0.801	0.802
915	0.836	0.836	0.836	0.834	0.834
920	0.853	0.856	998.0	0.853	0.852
925	0.876	0.873	0.873	0.859	098'0
930	0.859	0.867	0.867	0.864	0.863
935	0.878	0.872	0.878	898.0	0.868
940	0.884	0.877	0.881	0.868	0.868
945	0.865	0.867	0.870	698.0	0.871
950	0.877	0.876	0.882	0.870	0.875

(trans.) (trans.) (0.481 0.512 0.497 0.522 0.528 0.528 0.564 0.569 0.569 0.589 0.589 0.589 0.589 0.589 0.691 0.618 0.618 0.641 0.629 0.608 0.616 0.641 0.678 0.608 0.608	Rep. 2 (trans.)	SAMPLE 3		
(trans.) (trans.) 0.481 0.512 0.522 0.528 0.528 0.543 0.564 0.569 0.569 0.589 0.589 0.569 0.618 0.618 0.618 0.619 0.608 0.641 0.641 0.641 0.641 0.641 0.641 0.641	Rep. 2 (trans.)			
(trans.) 0.481 0.481 0.512 0.497 0.528 0.528 0.564 0.569 0.569 0.589 0.589 0.589 0.589 0.691 0.618 0.608 0.619 0.608 0.608 0.608 0.608 0.608 0.608 0.608 0.608 0.608 0.608 0.608 0.608 0.608	(trans.)	Rep. 3	Rep. 4	Rep. 5
	,	(trans.)	(trans.)	(trans.)
	0.482	0.484	0.494	0.490
	0.514	0.519	0.514	0.509
	0.497	0.505	0.505	0.494
	0.520	0.528	0.528	0.525
	0.532	0.528	0.539	0.497
	0.516	0.513	0.523	0.529
	0.558	0.567	0.564	0.540
	0.547	0.544	0.544	0.534
	0.562	0.568	0.564	0.561
	0.596	0.596	0.595	0.559
	0.563	0.572	0.570	0.566
	0.597	909.0	0.603	0.608
	0.624	0.626	0.623	0.574
	0.587	0.588	0.589	0.589
	0.623	0.630	0.627	0.628
	0.650	0.651	0.645	0.594
	0.597	0.598	0.599	0.602
	0.625	0.628	0.633	0.636
	999.0	0.671	0.667	0.619
	0.612	0.615	0.615	0.601
	0.616	0.621	0.621	0.649
	0.671	9/90	9/90	0.648
	0.643	0.639	0.644	0.595
	0.595	0.598	0.600	0.615
	0.642	0.647	0.646	0.661
	0.679	0.682	0.685	0.618
	0.616	0.618	0.621	0.588
	0.595	0.596	0.600	0.639
	0.670	0.672	0.672	0.060
	0.679	0.677	0.684	0.617
	0.611	0.612	0.611	0.586
C6C.U C00	0.591	0.595	0.595	0.634
610 0.664	0.663	999.0	0.668	0.665
615 0.683	0.685	0.691	0.691	0.612

E	G&G RADOMA	SPECTRARA	EG&G RADOMA SPECTRARADIOMETER - ARMSTRONG LAB (HECV)	ISTRONG LAB	(HECV)
			SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.602	0.606	0.609	0.609	0.568
625	0.571	0.571	0.576	0.575	0.601
930	0.624	0.622	0.628	0.626	0.665
635	0.683	0.687	0.691	0.692	0.641
640	0.632	0.642	0.639	0.640	0.573
645	0.559	0.564	0.566	0.563	0.554
929	0.571	0.567	0.578	0.575	0.615
929	0.653	0.648	0.655	0.655	0.660
099	6290	0.684	0.682	0.684	0.596
999	0.568	0.577	0.569	0.576	0.545
029	0.573	0.588	0.587	0.581	0.540
675	0.543	0.540	0.545	0.546	0.594
089	0.625	0.623	0.631	0.630	0.638
989	0.656	0.661	659.0	0.659	0.590
069	0.599	0.607	0.603	0.603	0.529
969	0.519	0.522	0.520	0.525	0.507
200	0.515	0.517	0.522	0.523	0.566
705	0.583	0.574	0.583	0.585	0.622
710	0.651	0.650		0.658	0.623
715	0.626	0.634	0.632	0.632	0.549
720	0.545	0.554	0.545	0.554	0.496
725	0.486	0.488	0.491	0.492	0.506
730	0.507	0.504	0.506	0.510	0.557
735	0.569	0.562	0.572	0.571	0.615
740	0.627	0.631		0.632	0.585
745	0.598	0.606		0.605	0.523
750	0.521	0.529		0.529	0.469
755	0.464	0.466		0.466	0.468
160	0.474	0.470		0.472	0.518
765	0.529	0.522		0.528	0.586
770	0.604	0.602		0.608	0.597
775	0.612	0.610	0.612	0.615	0.548
780	0.549	0.559		0.553	0.472
785	0.461	0.471		0.471	0.438

				The state of the s	
		SA	SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
06L	0.436	0.437	0.440	0.440	0.443
795	0.454	0.451	0.457	0.456	0.508
008	0.521	0.511	0.523	0.520	0.566
805	0.580	0.575	0.576	0.575	0.581
810	0.589	0.588	0.593	0.591	0.529
815	0.525	0.537	0.528	0.533	0.463
820	0.456	0.467	0.462	0.463	0.429
825	0.420	0.421	0.418	0.424	0.417
830	0.423	0.415	0.423	0.420	0.443
835	0.454	0.450	0.455	0.452	0.494
840	0.511	0.511	0.511	0.510	0.556
845	0.567	0.562	0.568	0.568	0.536
850	0.545	0.548	0.551	0.554	0.472
855	0.483	0.499	0.488	0.497	0.412
098	0.404	0.412	0.405	0.413	0.371
865	0.366	0.373	0.371	0.368	0.379
870	0.368	0.366	0.366	0.370	0.395
875	0.401	0.398	0.398	0.398	0.450
088	0.449	0.443	0.451	0.451	0.490
885	0.496	0.491	0.500	0.503	0.507
068	0.516	0.510	0.515	0.517	0.454
895	0.466	0.481	0.482	0.480	0.390
006	0.413	0.428	0.423	0.425	0.355
905	0.364	0.382	0.375	0.375	0.361
910	0.340	0.353	0.348	0.345	0.358
915	0.344	0.345	0.355	0.350	0.380
920	0.373	0.367	0.378	0.371	0.416
925	0.417	0.417	0.431	0.421	0.471
930	0.469	0.474	0.464	0.459	0.482
935	0.499	0.506	0.509	0.519	0.468
940	0.496	0.513	0.500	0.513	0.424
945	0.439	0.476	0.466	0.458	0.376
050	7070	0,14	077.0	2770	0/00

5	(2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -			() I I I I I	
			SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.450	0.450	0.450	0.448	0.448
455	0.530	0.531	0.530	0.531	0.531
460	0.486	0.485	0.486	0.482	0.483
465	0.519	0.520	0.520	0.521	0.523
470	0.550	0.550	0.550	0.546	0.547
475	0.507	0.507	0.507	0.508	0.508
480	0.599	0.599	0.599	0.599	0.599
485	0.549	0.549	0.550	0.546	0.546
490	0.578	0.578	0.577	0.580	0.580
495	0.640	0.640	0.640	0.637	0.638
200	0.572	0.572	0.573	0.569	0.570
505	0.629	0.630	0.628	0.631	0.632
510	0.665	0.665	0.665	0.661	0.661
515	0.587	0.587	0.589	0.586	0.586
520	0.654	0.654	0.654	0.656	0.657
525	0.692	0.691	0.692	0.688	0.688
530	0.601	0.601	0.603	0.599	0.599
535	0.647	0.648	0.648	0.650	0.651
540	0.720	0.720	0.720	0.717	0.717
545	0.627	0.626	0.627	0.622	0.623
550	0.622	0.622	0.622	0.623	0.624
555	0.727	0.727	0.726	0.726	0.728
260	0.679	0.679	0.679	0.674	0.674
565	0.596	0.596	0.596	0.594	0.595
570	0.665	0.665	0.664	0.667	0.668
575	0.736	0.736	0.736	0.732	0.734
280	0.633	0.632	0.633	0.627	0.629
585	0.590	0.590	0.591	0.590	0.591
290	0.691	0.692	0.690	0.694	0.695
595	0.732	0.732	0.731	0.727	0.729
009	0.617	0.616	0.618	0.612	0.612
605	0.578	0.578	0.578	0.579	0.579
610	0.680	0.681	6290	0.683	0.685
615	0.740	0.739	0.738	0.736	0.738

wavelength Rep. 1 Rep. 2 Rep. 3 Rep. 4 Rep. 5 (mm) (trans.) (trans.) (trans.) (trans.) (trans.) (cm) (trans.) (trans.) (trans.) (trans.) (trans.) (c20 0.626 0.631 0.632 0.631 0.632 0.631 620 0.626 0.632 0.631 0.632 0.631 0.632 0.631 630 0.626 0.632 0.632 0.632 0.632 0.632 0.631 0.733 0.733 0.733 0.733 0.734 0.734 0.734 0.734 0.735 0.635 <th>73</th> <th>ARY 5G SPECTR</th> <th>APHOTOMET</th> <th>CARY 5G SPECTRAPHOTOMETER - BROOKS, AFB (AL/OEO)</th> <th>FB (AL/OEO)</th> <th></th>	73	ARY 5G SPECTR	APHOTOMET	CARY 5G SPECTRAPHOTOMETER - BROOKS, AFB (AL/OEO)	FB (AL/OEO)	
Rep. 1 Rep. 2 Rep. 3 Rep. 4 I (trans.)			SA	MPLE 3		
(trans.)	wavelength	Rep. 1	Rep. 2		Rep. 4	Rep. 5
0.632 0.631 0.632 0.626 0.560 0.560 0.561 0.559 0.626 0.626 0.625 0.629 0.632 0.632 0.629 0.629 0.682 0.682 0.676 0.632 0.682 0.682 0.676 0.538 0.546 0.546 0.546 0.538 0.651 0.652 0.652 0.658 0.651 0.652 0.656 0.538 0.631 0.632 0.636 0.636 0.632 0.633 0.728 0.728 0.633 0.631 0.642 0.635 0.631 0.643 0.630 0.635 0.631 0.643 0.634 0.531 0.646 0.646 0.646 0.636 0.633 0.534 0.534 0.534 0.648 0.649 0.649 0.649 0.649 0.649 0.649 0.649 0.649 0.	(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.560 0.560 0.656 0.625 0.629 0.626 0.626 0.625 0.629 0.734 0.731 0.733 0.682 0.682 0.676 0.562 0.562 0.558 0.562 0.562 0.558 0.546 0.546 0.546 0.547 0.642 0.643 0.642 0.656 0.642 0.641 0.642 0.656 0.643 0.631 0.631 0.632 0.643 0.631 0.632 0.635 0.634 0.641 0.642 0.635 0.634 0.631 0.632 0.635 0.639 0.631 0.632 0.633 0.631 0.631 0.633 0.633 0.631 0.631 0.633 0.633 0.631 0.631 0.633 0.633 0.632 0.633 0.634 0.634 0.633 0.646 0.646 0.646	929	0.632	0.631	0.632	0.626	0.627
0.626 0.625 0.629 0.734 0.734 0.731 0.733 0.682 0.682 0.682 0.676 0.682 0.682 0.676 0.676 0.562 0.558 0.676 0.558 0.546 0.546 0.547 0.556 0.651 0.652 0.656 0.556 0.729 0.729 0.728 0.537 0.642 0.641 0.642 0.635 0.643 0.631 0.642 0.635 0.644 0.644 0.644 0.645 0.631 0.646 0.646 0.646 0.640 0.631 0.649 0.646 0.646 0.640 0.631 0.649 0.649 0.530 0.530 0.530 0.649 0.646 0.646 0.640 0.640 0.649 0.649 0.560 0.560 0.649 0.649 0.649 0.649 0.649 0.649 <t< td=""><td>625</td><td>0.560</td><td>0.560</td><td>0.561</td><td>0.559</td><td>0.560</td></t<>	625	0.560	0.560	0.561	0.559	0.560
0.734 0.734 0.734 0.733 0.682 0.682 0.682 0.676 0.562 0.562 0.558 0.676 0.546 0.546 0.547 0.656 0.546 0.546 0.546 0.547 0.621 0.652 0.651 0.656 0.622 0.672 0.656 0.656 0.631 0.632 0.633 0.633 0.534 0.534 0.633 0.633 0.631 0.646 0.646 0.640 0.646 0.646 0.646 0.630 0.646 0.646 0.630 0.633 0.671 0.671 0.671 0.670 0.646 0.646 0.646 0.646 0.673 0.534 0.534 0.530 0.673 0.673 0.646 0.646 0.673 0.673 0.679 0.679 0.674 0.673 0.679 0.679 0.684 0.	630	0.626	0.626	0.625	0.629	0.631
0.682 0.682 0.676 0.562 0.562 0.558 0.546 0.546 0.547 0.651 0.652 0.558 0.651 0.654 0.546 0.652 0.651 0.656 0.729 0.728 0.726 0.642 0.641 0.642 0.635 0.534 0.533 0.534 0.531 0.530 0.530 0.532 0.532 0.641 0.642 0.635 0.534 0.534 0.531 0.639 0.534 0.532 0.646 0.646 0.640 0.647 0.646 0.640 0.648 0.648 0.649 0.685 0.664 0.640 0.687 0.649 0.649 0.688 0.684 0.683 0.672 0.689 0.649 0.649 0.649 0.479 0.490 0.490 0.490 0.644 0.644	635	0.734	0.734	0.731	0.733	0.735
0.562 0.562 0.562 0.558 0.546 0.546 0.546 0.547 0.651 0.652 0.651 0.656 0.729 0.728 0.726 0.729 0.728 0.726 0.642 0.641 0.642 0.635 0.642 0.641 0.642 0.635 0.534 0.534 0.531 0.631 0.530 0.631 0.632 0.632 0.631 0.631 0.630 0.632 0.646 0.646 0.640 0.640 0.647 0.646 0.640 0.640 0.685 0.684 0.683 0.640 0.687 0.689 0.650 0.670 0.688 0.684 0.683 0.640 0.649 0.489 0.649 0.641 0.649 0.649 0.641 0.642 0.654 0.654 0.652 0.650 0.654 0.654 0.654 0.	640	0.682	0.682	0.682	9/9/0	0.677
0.546 0.546 0.546 0.547 0.651 0.652 0.651 0.656 0.729 0.728 0.726 0.642 0.641 0.642 0.635 0.642 0.641 0.642 0.635 0.534 0.533 0.534 0.531 0.631 0.631 0.633 0.532 0.631 0.631 0.630 0.635 0.631 0.631 0.630 0.532 0.715 0.715 0.713 0.713 0.646 0.646 0.640 0.635 0.646 0.646 0.640 0.630 0.647 0.653 0.500 0.500 0.648 0.668 0.563 0.674 0.671 0.671 0.669 0.679 0.687 0.684 0.683 0.679 0.687 0.684 0.684 0.645 0.644 0.644 0.644 0.644 0.654 0.654 0.	645	0.562	0.562	0.562	0.558	0.559
0.651 0.652 0.651 0.656 0.729 0.729 0.728 0.726 0.642 0.641 0.642 0.635 0.534 0.534 0.531 0.631 0.539 0.530 0.532 0.532 0.631 0.631 0.630 0.532 0.631 0.631 0.630 0.532 0.715 0.715 0.713 0.713 0.646 0.646 0.640 0.635 0.647 0.646 0.640 0.630 0.648 0.646 0.640 0.640 0.649 0.500 0.500 0.500 0.652 0.563 0.560 0.570 0.684 0.684 0.683 0.674 0.685 0.684 0.683 0.675 0.685 0.684 0.683 0.675 0.694 0.646 0.646 0.647 0.644 0.644 0.646 0.645 0.654 0.	059	0.546	0.546	0.546	0.547	0.548
0,729 0,729 0,729 0,729 0,728 0,726 0,642 0,641 0,642 0,635 0,635 0,631 0,631 0,631 0,631 0,632 0,532 0,532 0,532 0,532 0,532 0,640 0,640 0,640 0,640 0,640 0,640 0,640 0,640 0,640 0,640 0,640 0,640 0,672 0,672 0,672 0,672 0,672 0,672 0,672 0,672 0,672 0,672 0,672 0,674 0,644 0,644 0,644 0,644 0,644 0,644 0,644 0,644 0,644 0,645 0,652 0,652 0,652 0,652 0,652 0,652 0,646 0,646 0,646 0,646 0,6	655	0.651	0.652	0.651	0.656	0.657
0.642 0.641 0.642 0.633 0.534 0.534 0.531 0.530 0.530 0.532 0.631 0.631 0.632 0.631 0.631 0.632 0.631 0.630 0.635 0.715 0.713 0.713 0.646 0.646 0.640 0.646 0.646 0.640 0.646 0.646 0.640 0.646 0.646 0.640 0.646 0.646 0.640 0.649 0.649 0.500 0.682 0.669 0.570 0.683 0.672 0.672 0.684 0.683 0.672 0.490 0.679 0.679 0.490 0.679 0.679 0.490 0.679 0.679 0.490 0.679 0.679 0.490 0.674 0.644 0.644 0.649 0.646 0.649 0.659 0.659 <td>099</td> <td>0.729</td> <td>0.729</td> <td>0.728</td> <td>0.726</td> <td>0.729</td>	099	0.729	0.729	0.728	0.726	0.729
0.534 0.533 0.534 0.531 0.530 0.530 0.532 0.532 0.631 0.631 0.630 0.532 0.715 0.713 0.713 0.713 0.715 0.714 0.646 0.640 0.640 0.646 0.646 0.646 0.640 0.640 0.533 0.534 0.534 0.530 0.671 0.671 0.669 0.672 0.672 0.669 0.672 0.672 0.685 0.683 0.672 0.672 0.687 0.683 0.672 0.672 0.687 0.683 0.672 0.672 0.684 0.684 0.644 0.644 0.644 0.654 0.654 0.652 0.650 0.654 0.654 0.652 0.650 0.560 0.560 0.466 0.466 0.469 0.469 0.466 0.466 0.469 0.469 0.466 <t< td=""><td>999</td><td>0.642</td><td>0.641</td><td>0.642</td><td>0.635</td><td>0.636</td></t<>	999	0.642	0.641	0.642	0.635	0.636
0.530 0.530 0.532 0.631 0.631 0.635 0.646 0.646 0.646 0.533 0.534 0.530 0.546 0.646 0.646 0.533 0.534 0.530 0.6499 0.500 0.500 0.562 0.562 0.566 0.673 0.684 0.663 0.566 0.671 0.679 0.560 0.579 0.685 0.679 0.679 0.679 0.687 0.683 0.679 0.679 0.490 0.489 0.487 0.487 0.490 0.489 0.487 0.487 0.580 0.579 0.487 0.487 0.644 0.644 0.641 0.645 0.564 0.654 0.646 0.655 0.560 0.559 0.559 0.559 0.469 0.469 0.466 0.466 0.445 0.446 0.446 0.446 <tr< td=""><td>0/9</td><td>0.534</td><td>0.533</td><td>0.534</td><td>0.531</td><td>0.531</td></tr<>	0/9	0.534	0.533	0.534	0.531	0.531
0.631 0.631 0.635 0.715 0.713 0.713 0.646 0.646 0.640 0.533 0.534 0.530 0.499 0.503 0.500 0.562 0.562 0.566 0.685 0.671 0.669 0.672 0.687 0.683 0.679 0.679 0.689 0.679 0.679 0.679 0.680 0.679 0.679 0.679 0.680 0.679 0.679 0.679 0.680 0.679 0.679 0.679 0.681 0.682 0.679 0.679 0.682 0.679 0.679 0.679 0.644 0.649 0.649 0.645 0.654 0.654 0.654 0.651 0.654 0.654 0.655 0.655 0.654 0.654 0.655 0.655 0.654 0.654 0.466 0.466 0.445 0.446 0.446<	. 675	0.530	0.530	0.530	0.532	0.533
0.715 0.713 0.713 0.646 0.646 0.640 0.534 0.534 0.530 0.599 0.500 0.500 0.5499 0.500 0.500 0.6499 0.653 0.566 0.5499 0.500 0.500 0.562 0.566 0.566 0.671 0.669 0.672 0.685 0.684 0.683 0.679 0.580 0.579 0.679 0.679 0.490 0.489 0.490 0.487 0.490 0.487 0.487 0.487 0.547 0.546 0.551 0.654 0.652 0.650 0.654 0.654 0.652 0.654 0.654 0.650 0.654 0.652 0.650 0.654 0.652 0.652 0.654 0.652 0.652 0.445 0.446 0.446 0.445 0.496 0.496	089	0.631	0.631	0.630	0.635	0.636
0.646 0.646 0.646 0.640 0.533 0.534 0.530 0.499 0.500 0.500 0.671 0.669 0.566 0.685 0.684 0.683 0.679 0.685 0.684 0.683 0.679 0.680 0.579 0.487 0.487 0.490 0.489 0.487 0.479 0.479 0.478 0.479 0.479 0.547 0.549 0.549 0.574 0.547 0.546 0.551 0.551 0.549 0.641 0.645 0.551 0.540 0.549 0.551 0.552 0.554 0.652 0.650 0.554 0.560 0.559 0.554 0.554 0.560 0.560 0.446 0.446 0.446 0.445 0.445 0.446 0.446 0.446 0.586 0.586 0.589 0.589 0.607 0.607 0.	989	0.715	0.715	0.713	0.713	0.714
0.533 0.534 0.530 0.499 0.500 0.500 0.499 0.500 0.500 0.562 0.562 0.566 0.671 0.671 0.669 0.672 0.685 0.684 0.683 0.679 0.580 0.579 0.487 0.574 0.490 0.487 0.487 0.487 0.547 0.549 0.479 0.479 0.547 0.546 0.551 0.650 0.654 0.644 0.641 0.645 0.550 0.554 0.650 0.554 0.560 0.559 0.550 0.554 0.560 0.559 0.650 0.660 0.445 0.445 0.446 0.446 0.586 0.586 0.589 0.589 0.601 0.601 0.601 0.500	069	0.646	0.646	0.646	0.640	0.640
0.499 0.499 0.500 0.500 0.562 0.563 0.562 0.566 0.685 0.671 0.669 0.672 0.685 0.673 0.679 0.580 0.579 0.679 0.580 0.489 0.487 0.479 0.479 0.487 0.547 0.546 0.551 0.644 0.644 0.645 0.550 0.550 0.650 0.560 0.550 0.650 0.469 0.469 0.466 0.469 0.466 0.554 0.560 0.550 0.554 0.560 0.550 0.554 0.469 0.469 0.466 0.445 0.446 0.446 0.491 0.492 0.496 0.586 0.589 0.589 0.601 0.601 0.601	969	0.533	0.534	0.534	0.530	0.530
0.562 0.563 0.566 0.671 0.669 0.672 0.685 0.684 0.683 0.679 0.680 0.684 0.683 0.679 0.580 0.579 0.574 0.674 0.490 0.489 0.487 0.487 0.479 0.478 0.487 0.487 0.547 0.546 0.551 0.645 0.644 0.641 0.645 0.652 0.654 0.652 0.652 0.652 0.560 0.554 0.650 0.656 0.469 0.469 0.466 0.650 0.445 0.445 0.446 0.446 0.491 0.492 0.492 0.496 0.651 0.601 0.601 0.601 0.605 0.506 0.500 0.500	100	0.499	0.499	0.500	0.500	0.501
0.671 0.672 0.682 0.672 0.685 0.684 0.683 0.679 0.580 0.579 0.574 0.674 0.490 0.489 0.487 0.487 0.479 0.479 0.487 0.487 0.547 0.547 0.546 0.551 0.644 0.641 0.645 0.645 0.560 0.559 0.554 0.650 0.760 0.759 0.750 0.750 0.469 0.469 0.466 0.466 0.445 0.445 0.446 0.446 0.586 0.585 0.589 0.586 0.585 0.589 0.607 0.607 0.601 0.605 0.606 0.601	705	0.562	0.563	0.562	0.566	0.567
0.685 0.684 0.683 0.679 0.580 0.579 0.574 0.574 0.490 0.489 0.490 0.487 0.479 0.479 0.479 0.479 0.547 0.547 0.546 0.551 0.654 0.654 0.645 0.652 0.654 0.652 0.650 0.554 0.469 0.469 0.466 0.466 0.445 0.445 0.446 0.446 0.481 0.482 0.589 0.589 0.651 0.651 0.648 0.648 0.651 0.652 0.589 0.589 0.652 0.601 0.601 0.601 0.605 0.505 0.500 0.500	710	0.671	0.671	699.0	0.672	0.674
0.580 0.579 0.574 0.490 0.487 0.487 0.479 0.479 0.487 0.547 0.547 0.546 0.551 0.654 0.654 0.651 0.652 0.654 0.654 0.652 0.650 0.560 0.559 0.554 0.554 0.469 0.469 0.466 0.466 0.445 0.445 0.446 0.446 0.586 0.586 0.589 0.589 0.651 0.652 0.608 0.648 0.586 0.586 0.589 0.589 0.651 0.607 0.608 0.601 0.505 0.505 0.500 0.500	715	0.685	0.684	0.683	0.679	0.681
0.490 0.489 0.490 0.487 0.479 0.478 0.479 0.547 0.546 0.551 0.644 0.654 0.652 0.654 0.652 0.650 0.654 0.659 0.650 0.560 0.559 0.554 0.469 0.469 0.466 0.445 0.445 0.446 0.491 0.492 0.496 0.586 0.586 0.589 0.651 0.650 0.648 0.601 0.505 0.500	720	0.580	0.579	0.579	0.574	0.574
0.479 0.478 0.479 0.547 0.546 0.551 0.644 0.641 0.645 0.654 0.654 0.651 0.654 0.654 0.652 0.654 0.652 0.650 0.560 0.559 0.554 0.469 0.469 0.466 0.445 0.445 0.446 0.491 0.492 0.496 0.586 0.585 0.589 0.651 0.650 0.648 0.605 0.607 0.606 0.505 0.506 0.601	725	0.490	0.489	0.490	0.487	0.488
0.547 0.546 0.551 0.644 0.641 0.645 0.654 0.654 0.652 0.654 0.652 0.650 0.560 0.559 0.554 0.469 0.469 0.466 0.445 0.445 0.446 0.491 0.492 0.496 0.586 0.585 0.589 0.651 0.607 0.608 0.605 0.607 0.606 0.505 0.505 0.500	730	0.479	0.479	0.478	0.479	0.481
0.644 0.644 0.641 0.645 0.654 0.652 0.650 0.560 0.559 0.554 0.469 0.469 0.466 0.445 0.445 0.446 0.491 0.492 0.496 0.586 0.585 0.589 0.651 0.607 0.608 0.505 0.505 0.500	735	0.547	0.547	0.546	0.551	0.551
0.654 0.654 0.652 0.650 0.560 0.559 0.554 0.554 0.469 0.469 0.466 0.466 0.445 0.445 0.446 0.446 0.491 0.492 0.496 0.496 0.586 0.585 0.589 0.589 0.607 0.607 0.606 0.601 0.505 0.505 0.500 0.500	740	0.644	0.644	0.641	0.645	0.647
0.560 0.559 0.554 0.469 0.469 0.469 0.466 0.445 0.445 0.446 0.446 0.491 0.492 0.496 0.496 0.586 0.585 0.589 0.651 0.650 0.648 0.648 0.605 0.607 0.606 0.601 0.505 0.505 0.500 0.500	745	0.654	0.654	0.652	0.650	0.651
0.469 0.469 0.469 0.466 0.445 0.445 0.446 0.446 0.491 0.492 0.492 0.496 0.586 0.586 0.589 0.589 0.651 0.607 0.608 0.648 0.605 0.607 0.606 0.601 0.505 0.505 0.500 0.500	750	0.560	0.559	0.559	0.554	0.554
0.445 0.445 0.446 0.446 0.491 0.492 0.492 0.496 0.586 0.586 0.589 0.589 0.651 0.650 0.648 0.648 0.605 0.607 0.606 0.601 0.505 0.505 0.500 0.500	755	. 0.469	0.469	0.469	0.466	0.466
0.491 0.492 0.496 0.496 0.586 0.585 0.589 0.651 0.650 0.648 0.648 0.605 0.607 0.606 0.601 0.505 0.505 0.500 0.500	092	0.445	0.445	0.446	0.446	0.446
0.586 0.586 0.589 0.651 0.650 0.648 0.605 0.607 0.606 0.505 0.505 0.500	765	0.491	0.492	0.492	0.496	0.496
0.651 0.650 0.648 0.648 0.605 0.607 0.606 0.601 0.505 0.505 0.500	0 <i>LL</i>	0.586	0.586	0.585	0.589	0.590
0.605 0.607 0.606 0.601 0.505 0.505 0.500	775	0.651	0.650	0.648	0.648	0.650
0.505 0.505 0.506 0.500	780	0.605	0.607	909.0	0.601	0.601
	785	0.505	0.505	0.505	0.500	0.500

CA	RY 5G SPECTR	APHOTOMET	CARY 5G SPECTRAPHOTOMETER - BROOKS, AFB (AL/OEO)	FB (AL/OEO)	
		SA	SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.436	0.435	0.435	0.433	0.433
795	0.424	0.424	0.423	0.424	0.425
800	0.468	0.468	0.467	0.471	0.472
805	0.553	0.553	0.551	0.556	0.558
810	0.619	0.620	0.617	0.619	0.622
815	0.596	0.598	0.596	0.593	0.592
820	0.509	0.508	0.508	0.504	0.503
825	0.431	0.430	0.431	0.428	0.428
830	0.398	0.396	0.398	0.397	0.396
835	0.410	0.410	0.409	0.412	0.413
840	0.465	0.466	0.465	0.470	0.470
845	0.546	0.546	0.543	0.549	0.548
850	0.592	0.589	0.590	0.590	0.590
855	0.555	0.558	0.554	0.548	0.549
098	0.466	0.469	0.465	0.461	0.459
865	0.388	0.387	0.385	0.388	0.385
870	0.348	0.351	0.348	0.348	0.350
875	0.376	0.376	0.376	0.375	0.376
088	0.404	0.404	0.403	0.404	0.406
885	0.452	0.451	0.450	0.453	0.454
068	0.496	0.496	0.494	0.496	0.498
895	0.506	0.506	0.504	0.504	0.505
006	0.467	0.466	0.466	0.463	0.463
905	0.408	0.408	0.407	0.404	0.404
910	0.359	0.358	0.358	0.356	0.356
915	0.336	0.336	0.335	0.335	0.335
920	0.338	0.338	0.337	0.338	0.338
925	0.362	0.362	0.361	0.363	0.364
930	0.408	0.408	0.407	0.410	0.411
935	0.465	0.464	0.464	0.467	0.469
940	0.507	0.507	0.506	0.507	0.509
945	0.504	0.504	0.502	0.500	0.502
950	0.456	0.456	0.456	0.452	0.453

	The state of the s	AND A P DA	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	(OEO)	
		SA	SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.445	0.438	0.434	0.435	0.433
455	0.529	0.531	0.527	0.522	0.524
460	0.458	0.462	0.457	0.461	0.455
465	0.539	0.526	0.524	0.517	0.521
470	0.512	0.524	0.518	0.522	0.516
475	0.516	0.503	0.500	0.497	0.498
480	0.589	0.592	0.588	0.585	0.585
485	0.520	0.524	0.518	0.522	0.515
490	0.598	0.582	0.580	0.572	0.577
495	909'0	0.619	0.613	0.614	0.610
200	0.555	0.552	0.547	0.549	0.544
505	0.645	0.632	0.630	0.622	0.627
510	0.624	0.637	0.631	0.634	0.628
515	0.575	0.569	0.564	0.565	0.561
520	0.673	0.658	0.655	0.646	0.653
525	0.648	0.664	0.657	099.0	0.653
530	0.581	0.580	0.574	0.577	0.571
535	0.673	0.653	0.651	0.641	0.648
540	0.685	0.698	0.692	0.692	0.688
545	0.592	0.596	0.589	0.595	0.586
550	0.641	0.623	0.620	0.613	0.617
555	0.721	0.722	0.718	0.711	0.714
260	0.624	0.641	0.633	0.640	0.630
292	0.587	0.582	0.576	0.577	0.573
570	0.693	0.673	0.671	0.099	0.668
575	0.700	0.714	0.708	0.708	0.704
280	0.588	0.599	0.591	0.599	0.588
585	0.601	0.587	0.582	0.579	0.580
590	0.716	0.701	0.698	0.687	0.695
595	0.685	0.704	969.0	0.700	0.693
009	0.572	0.584	0.575	0.583	0.572
909	0.590	0.574	0.570	0.567	0.567
610	0.713	0.693	0.691	0.679	0.688
615	0.702	0.719	0.712	0.713	0.708

P	ERKIN ELMER	LAMBDA 9.	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	/OEO)	
			SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.581	0.598	0.589	0.598	0.586
625	0.559	0.552	0.546	0.546	0.544
630	0.663	0.640	0.637	0.626	0.634
635	0.726	0.732	0.726	0.720	0.723
640	0.620	0.645	0.636	0.646	0.633
645	0.529	0.537	0.529	0.536	0.527
650	0.567	0.548		0.540	0.541
655	0.690	0.667		0.651	0.661
099	0.704	0.716		0.708	0.706
999	0.583	0.605		909.0	0.594
029	0.511	0.516	0.509	0.514	0.506
675	0.552	0.535	0.531	0.526	0.528
089	0.668	0.647	0.644	0.632	0.641
685	0.697	0.707		169.0	0.698
069	0.587	0.612	0.603	0.612	0.599
969	0.499	0.508	0.500	0.508	0.498
200	0.506	0.495	0.490	0.489	0.488
705	0.599	0.575		0.562	0.570
710	0.688	0.680		0.665	0.672
715	0.640	0.661		0.656	0.650
720	0.526	0.546	0.537	0.547	0.535
725	0.468	0.472		0.470	0.463
730	0.493	0.481	0.477	0.474	0.474
735	0.584	0.564	0.561	0.551	0.559
740	0.659	0.655	0.651	0.642	0.648
745	0.612	0.635		0.631	0.624
750	0.505	0.527	0.518	0.528	0.515
755	. 0.443	0.449		0.448	0.440
160	0.451	0.442	0.438	0.437	0.435
765	0.523	0.503		0.492	0.497
170	0.619	0.602		0.588	0.596
775	0.639	0.647		0.637	0.638
780	0.554	0.578	0.569	0.576	0.567
785	0.460	0.476	0.468	0.477	0.466

	***************************************	AUTODA 7 - DIA	rennin Elmen Lambba 7 - Brooks, arb (alloed)	(OTO)	
		SA	SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.417	0.420	0.414	0.418	0.412
795	0.434	0.424	0.420	0.418	0.417
800	0.501	0.482	0.479	0.471	0.477
802	0.588	0.572	0.570	0.559	0.567
810	0.617	0.623	0.618	0.613	0.615
815	0.552	0.574	0.566	0.572	0.564
820	0.460	0.480	0.471	0.481	0.470
825	0.403	0.411	0.406	0.411	0.403
830	0.393	0.391	0.387	0.388	0.385
835	0.428	0.418	0.415	0.411	0.413
840	0.499	0.485	0.483	0.474	0.481
845	0.573	0.566	0.564	0.552	0.562
820	0.580	0.592	0.590	0.584	0.587
855	0.510	0.536	0.530	0.534	0.529
098	0.425	0.446	0.439	0.447	0.438
865	0.421	0.414	0.402	0.412	0.397
870	0.383	0.369	0.362	0.367	0.358
875	0.384	0.363	0.355	0.360	0.351
880	0.419	0.391	0.381	0.385	0.377
885	0.476	0.444	0.432	0.435	0.427
068	0.531	0.503	0.489	0.492	0.482
895	0.540	0.527	0.511	0.517	0.502
006	0.490	0.490	0.473	0.484	0.466
905	0.420	0.421	0.407	0.417	0.401
910	0.364	0.362	0.350	0.360	0.345
915	0.341	0.333	0.322	0.330	0.318
920	0.348	0.333	0.323	0.329	0.318
925	0.377	0.356	0.346	0.350	0.341
930	0.430	0.402	0.391	0.393	0.386
935	0.494	0.464	0.451	0.453	0.445
940	0.536	0.515	0.501	0.504	0.493
945	0.526	0.519	0.503	0.511	0.496
050	0.473	0.474	0.459	0770	0.460

H	TACHI U-2000 -	POLYCAST TE	HITACHI U-2000 - POLYCAST TECHNOLOGY CORPORATION	NEORATION	
			SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.441	0.457	0.458	0.456	0.45
455	0.539	0.531	0.537	0.538	0.537
460	0.472	0.464	0.459	0.46	0.464
465	0.523	0.544	0.553	0.551	0.541
470	0.541	0.513	0.509	0.511	0.522
475	0.503	0.526	0.529	0.526	0.518
480	0.604	0.59	0.594	0.597	0.598
485	0.535	0.524	0.521	0.521	0.526
490	0.58	0.605	0.614	0.611	0.598
495	0.636	909.0	909'0	0.61	0.618
200	0.558	0.561	0.559	0.558	0.558
202	0.63	0.652	0.661	0.659	0.647
510	0.658	0.624	0.623	0.627	0.638
515	0.574	0.582	0.58	0.578	0.576
520	0.656	629.0	0.689	0.687	0.675
525	0.687	0.65	0.649	0.652	0.664
530	0.585	0.587	0.584	0.584	0.585
535	0.649	89.0	69.0	0.687	0.672
540	0.719	0.685	0.687	0.691	0.7
545	0.609	0.595	0.59	0.591	0.598
250	0.615	0.648	0.655	0.652	0.637
555	0.733	0.723	0.732	0.733	0.731
995	0.664	0.626	0.621	0.625	0.64
595	0.582	0.594	0,593	0.592	0.588
570	9990	0.699	0.709	0.707	0.691
575	0.736	0.697	0.7	0.705	0.715
280	0.615	0.59	0.583	0.587	0.597
585	0.58	909:0	609.0	909.0	0.596
590	969.0	0.722	0.733	0.731	0.717
595	0.728	0.684	0.682	0.688	0.702
009	0.597	0.576	0.569	0.572	0.583
605	0.568	0.594	0.596	0.593	0.584
610	989.0	0.716	0.729	0.725	0.70
615	0.74	0.7	0.7	0.707	0.717

	IIIIII O-MAA TOTTOTTI ITOTI OOMA TOTTOTTI	10000			
		SA	SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.615	0.583	0.576	0.581	0.593
625	0.548	0.563	0.562	0.561	0.556
630	0.626	0.666	0.676	0.672	0.654
635	0.742	0.729	0.736	0.74	0.738
640	0.671	0.624	0.617	0.624	0.641
645	0.546	0.535	0.529	0.531	0.538
059	0.537	0.568	0.57	0.568	0.557
655	0.655	0.691	0.701	669.0	0.682
099	0.735	0.704	0.708	0.714	0.719
999	0.63	0.588	0.578	0.587	0.603
0.09	0.519	0.515	0.509	0.511	0.516
912	0.522	0.554	0.556	0.553	0.542
089	0.628	899.0	0.677	0.675	0.656
982	0.72	0.699	0.704	0.708	0.71
069	0.635	0.59	0.582	0.589	0.606
695	0.516	0.502	0.494	0.498	0.506
200	0.488	0.507	0.506	0.505	0.499
202	0.555	0.597	0.604	0.601	0.582
710	0.674	0.689	0.699	0.7	0.688
715	0.684	0.642	0.64	0.647	0.659
720	0.568	0.531	0.522	0.528	0.543
725	0.477	0.471	0.465	0.467	0.472
730	0.469	0.493	0.493	0.492	0.484
735	0.542	0.585	0.593	0.59	0.571
740	0.648	0.664	0.673	0.673	0.662
745	0.656	0.619	0.617	0.624	0.635
750	0.546	0.511	0.5	0.507	0.523
755	0.455	0.445	0.437	0.44	0.447
092	0.434	0.448	0.445	0.445	0.441
765	0.482	0.519	0.524	0.521	0.506
170	0.584	0.619	0.629	0.628	0.61
775	0.655	0.644	0.649	0.653	0.652
780	0.604	0.563	0.556	0.564	0.58
705	3000	0 167		0770	

H	ITACHI U-2000 -	POLYCAST TI	HITACHI U-2000 - POLYCAST TECHNOLOGY CORPORATION	ORPORATION	
			SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
790	0.423	0.419	0.413	0.416	0.42
795	0.415	0.433	0.43	0.43	0.425
800	0.461	0.497	0.501	0.499	0.484
805	0.55	0.586	0.595	0.593	0.576
810	0.625	0.621	0.628	0.632	0.627
815	0.595	0.558	0.553	0.561	0.573
820	0.5	0.467	0.458	0.464	0.479
825	0.42	0.408	0.4	0.404	0.411
830	0.387	0.395	0.391	0.392	0.391
835	0.403	0.428	0.429	0.428	0.418
840	0.461	0.497	0.503	0.501	0.485
845	0.543	0.573	0.582	0.581	0.565
850	0.595	0.585	0.59	0.593	0.593
855	0.552	0.517	0.512	0.518	0.531
098	0.459	0.429	0.421	0.427	0.44
865	0.379	0.365	0.358	0.362	0.37
870	0.342	0.344	0.339	0.341	0.342
875	0.348	0.365	0.364	0.364	0.358
880	0.386	0.416	0.419	0.417	0.405
885	0.45	0.483	0.49	0.489	0.473
890	0.516	0.53	0.538	0.538	0.529
895	0.532	0.512	0.513	0.518	0.523
006	0.478	0.445	0.439	0.445	0.458
905	0.401	0.375	0.368	0.373	0.385
910	0.344	0.332	0.325	0.329	0.336
915	0.323	0.324	0.32	0.322	0.323
920	0.328	0.341	0.34	0.34	0.336
925	0.356	0.379	0.382	0.381	0.37
930	0.409	0.441	0.446	0.445	0.429
935	0.477	0.501	0.51	0.509	0.495
940	0.526	0.525	0.531	0.533	0.529
945	0.52	0.493	0.492	0.497	0.506
950	0.465	0.431	0.425	0.431	0.445

IO	PTRONICS MOD	EL 736 RAL	OPTRONICS MODEL 736 RADIOMETER-TEXSTAR,INC.	AR,INC.	
			SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.))	(trans.)	(trans.)
450	0.470	0.473	0.472	0.464	0.476
455	0.522	0.525	0.514	0.508	0.523
460	0.491	0.495		0.495	0.506
465	0.534	0.537		0.513	0.533
470	0.537	0.541	0.552	0.540	0.552
475	0.530	0.532	0.526	0.518	0.535
480	0.595	0.597	0.590	0.581	0.599
485	0.555	0.558		0.558	0.571
490	0.600	0.600		0.576	0.600
495	0.623	0.625	0.632	0.620	0.637
200	0.586	0.588	0.594	0.581	0.599
505	0.646	0.647	0.625	0.619	0.645
510	0.646	0.649	099.0	0.646	0.663
515	0.604	0.606		0.599	0.617
520	199.0	0.669		0.640	0.666
525	0.668	0.669		0.668	0.686
530	0.613	0.615	0.625	0.612	0.628
535	0.671	0.672		0.639	0.666
540	0.694	0.694	0.701	0.688	0.707
545	0.623	0.623	0.646	0.629	0.643
550	0.650	0.651	0.632	0.624	0.647
555	0.718	0.716		0.692	0.717
260	0.661	0.660		0.671	0.685
565	0.617	0.617	0.621	0.607	0.625
570	0.690	0.689		0.653	0.681
575	0.710	0.708	0.717	0.701	0.722
280	0.622	0.621		0.634	0.647
585	0.617	0.617		0.599	0.620
290	0.705	0.704		0.666	0.696
595	0.708	0.707		0.706	0.725
009	0.613	0.613	0.649	0.628	0.641
909	0.603	0.603		0.584	0.607
610	0.699	0.699	0.665	0.658	0.684
615	0.718	0.716		0.711	0.728

wavelength Rep. 2 Rep. 3 Rep. 4 (mm) (trans.) (trans.) (trans.) (trans.) (c25) 0.623 0.621 0.660 0.634 625 0.587 0.586 0.588 0.574 625 0.587 0.586 0.658 0.574 630 0.660 0.660 0.673 0.671 645 0.733 0.674 0.663 0.573 645 0.581 0.579 0.716 0.703 645 0.581 0.579 0.718 0.573 645 0.581 0.579 0.563 0.573 660 0.713 0.714 0.640 0.573 660 0.714 0.640 0.531 0.563 660 0.715 0.711 0.718 0.563 670 0.547 0.544 0.549 0.531 670 0.523 0.546 0.546 0.546 670 0.548 <	0	OPTRONICS MODEL 736 RADIOMETER-TEXSTAR, INC.	DEL 736 RADIO!	METER-TEXSTA	AR,INC.	
Rep. 1 Rep. 2 Rep. 3 F. (trans.)						
(trans.) (trans.)	wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
0.623 0.621 0.660 0.587 0.586 0.588 0.660 0.660 0.625 0.733 0.729 0.716 0.677 0.702 0.716 0.678 0.674 0.702 0.572 0.571 0.599 0.573 0.674 0.640 0.678 0.674 0.640 0.678 0.671 0.718 0.625 0.621 0.640 0.627 0.671 0.718 0.628 0.621 0.641 0.629 0.621 0.643 0.631 0.622 0.671 0.632 0.623 0.673 0.633 0.634 0.546 0.634 0.522 0.673 0.638 0.631 0.673 0.639 0.631 0.653 0.648 0.670 0.663 0.658 0.671 0.624 0.659 0.643 0.654 <td< td=""><td>(mm)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td></td<>	(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.587 0.586 0.588 0.660 0.660 0.625 0.733 0.729 0.716 0.677 0.571 0.599 0.581 0.579 0.563 0.678 0.674 0.640 0.678 0.674 0.640 0.678 0.671 0.640 0.678 0.671 0.640 0.679 0.670 0.668 0.672 0.671 0.671 0.625 0.652 0.671 0.630 0.652 0.673 0.631 0.652 0.673 0.632 0.653 0.673 0.633 0.634 0.572 0.634 0.653 0.653 0.638 0.631 0.653 0.659 0.652 0.653 0.659 0.653 0.653 0.650 0.653 0.653 0.650 0.663 0.653 0.650 0.663 0.663 <td< td=""><td>620</td><td>0.623</td><td>0.621</td><td>0.660</td><td>0.637</td><td>0.644</td></td<>	620	0.623	0.621	0.660	0.637	0.644
0.660 0,660 0,662 0.733 0,729 0,716 0.773 0,674 0,702 0.677 0,571 0,599 0.581 0,579 0,563 0.581 0,674 0,640 0.678 0,674 0,640 0.678 0,671 0,668 0.625 0,652 0,617 0.626 0,652 0,671 0.547 0,546 0,571 0.627 0,668 0,673 0.638 0,627 0,673 0.639 0,534 0,573 0.639 0,534 0,563 0.639 0,534 0,563 0.639 0,639 0,563 0.639 0,639 0,639 0.670 0,670 0,693 0.671 0,670 0,693 0.672 0,670 0,693 0.680 0,643 0,643 0.680 0,643 0,643 <td< td=""><td>625</td><td>0.587</td><td>0.586</td><td>0.588</td><td>0.574</td><td>0.587</td></td<>	625	0.587	0.586	0.588	0.574	0.587
0.733 0.729 0.716 0.667 0.664 0.702 0.572 0.571 0.599 0.581 0.579 0.563 0.678 0.674 0.640 0.678 0.674 0.648 0.675 0.621 0.668 0.625 0.621 0.668 0.656 0.652 0.671 0.670 0.673 0.673 0.631 0.627 0.673 0.638 0.634 0.572 0.639 0.634 0.573 0.639 0.634 0.653 0.639 0.634 0.653 0.639 0.631 0.653 0.658 0.681 0.653 0.670 0.670 0.653 0.671 0.670 0.653 0.672 0.673 0.653 0.688 0.681 0.653 0.670 0.670 0.693 0.670 0.670 0.693 <td< td=""><td>630</td><td>0.060</td><td>099.0</td><td>0.625</td><td>0.618</td><td>0.643</td></td<>	630	0.060	099.0	0.625	0.618	0.643
0.667 0.664 0.702 0.572 0.571 0.599 0.581 0.579 0.563 0.581 0.674 0.640 0.715 0.711 0.718 0.625 0.621 0.668 0.547 0.545 0.571 0.562 0.562 0.546 0.547 0.546 0.571 0.562 0.526 0.546 0.653 0.652 0.673 0.631 0.627 0.673 0.632 0.534 0.524 0.538 0.681 0.653 0.677 0.670 0.693 0.677 0.670 0.693 0.671 0.672 0.623 0.672 0.673 0.623 0.673 0.673 0.624 0.674 0.573 0.623 0.688 0.681 0.665 0.689 0.690 0.649 0.680 0.643 0.665 <td< td=""><td>635</td><td>0.733</td><td>0.729</td><td>0.716</td><td>0.703</td><td>0.726</td></td<>	635	0.733	0.729	0.716	0.703	0.726
0.572 0.571 0.599 0.581 0.579 0.563 0.678 0.674 0.640 0.715 0.711 0.718 0.625 0.621 0.668 0.547 0.545 0.546 0.562 0.652 0.668 0.563 0.546 0.546 0.562 0.657 0.673 0.638 0.627 0.673 0.538 0.534 0.572 0.526 0.534 0.572 0.538 0.631 0.653 0.677 0.670 0.693 0.678 0.670 0.693 0.679 0.670 0.693 0.670 0.671 0.663 0.671 0.672 0.693 0.672 0.673 0.663 0.673 0.674 0.663 0.688 0.681 0.665 0.688 0.669 0.669 0.698 0.699 0.693 0.698 0.699 0.699 0.698 0.699 0.699	640	0.667	0.664	0.702	0.679	0.687
0.581 0.579 0.563 0.678 0.674 0.640 0.715 0.711 0.718 0.625 0.621 0.668 0.547 0.545 0.546 0.547 0.545 0.546 0.562 0.652 0.617 0.653 0.652 0.673 0.631 0.627 0.673 0.526 0.524 0.572 0.538 0.634 0.653 0.677 0.670 0.653 0.677 0.670 0.653 0.502 0.631 0.653 0.503 0.654 0.653 0.504 0.653 0.653 0.505 0.643 0.653 0.668 0.660 0.653 0.658 0.669 0.665 0.658 0.669 0.669 0.658 0.669 0.669 0.658 0.669 0.669 0.658 0.669 0.669 <th< td=""><td>645</td><td>0.572</td><td>0.571</td><td>0.599</td><td>0.577</td><td>0.587</td></th<>	645	0.572	0.571	0.599	0.577	0.587
0.678 0.674 0.640 0.715 0.711 0.718 0.625 0.621 0.668 0.547 0.545 0.546 0.562 0.560 0.546 0.562 0.652 0.617 0.708 0.703 0.617 0.538 0.534 0.521 0.538 0.534 0.553 0.677 0.670 0.653 0.677 0.670 0.653 0.677 0.670 0.693 0.502 0.497 0.622 0.503 0.693 0.693 0.510 0.506 0.499 0.510 0.506 0.499 0.510 0.506 0.693 0.58 0.583 0.549 0.650 0.650 0.693 0.650 0.643 0.654 0.650 0.643 0.643 0.650 0.643 0.693 0.650 0.643 0.650	059	0.581	0.579	0.563	0.553	0.572
0.715 0.711 0.718 0.625 0.621 0.668 0.547 0.545 0.571 0.562 0.560 0.546 0.652 0.652 0.617 0.631 0.627 0.673 0.538 0.534 0.521 0.526 0.522 0.521 0.538 0.634 0.563 0.677 0.670 0.693 0.677 0.670 0.693 0.677 0.673 0.622 0.502 0.497 0.622 0.588 0.681 0.653 0.588 0.583 0.549 0.588 0.583 0.598 0.580 0.660 0.635 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.640 0.665 0.650 0.660 0.693 0.650 0.660 0.665	655	0.678	0.674	0.640	0.634	0.662
0.625 0.621 0.668 0.547 0.545 0.546 0.562 0.560 0.546 0.636 0.652 0.617 0.708 0.703 0.701 0.738 0.534 0.672 0.538 0.534 0.521 0.526 0.522 0.521 0.599 0.694 0.654 0.677 0.670 0.693 0.502 0.497 0.524 0.510 0.670 0.693 0.510 0.506 0.499 0.510 0.507 0.622 0.58 0.583 0.549 0.58 0.583 0.549 0.650 0.665 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.467 0.462 0.468 0.652 0.519 0.508 0.652 0.653 0.659 0.652 0.651 0.652 0	099	0.715	0.711	0.718	0.700	0.722
0.547 0.545 0.571 0.562 0.560 0.546 0.656 0.652 0.617 0.708 0.703 0.701 0.631 0.627 0.673 0.538 0.534 0.572 0.526 0.522 0.521 0.599 0.681 0.654 0.677 0.670 0.654 0.502 0.497 0.654 0.510 0.573 0.654 0.510 0.573 0.654 0.510 0.573 0.654 0.588 0.583 0.549 0.588 0.583 0.549 0.650 0.652 0.653 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.747 0.746 0.508 0.652 0.651 0.652 0.652 0.652 0.652 0.652 0.653 0.665 <td< td=""><td>999</td><td>0.625</td><td>0.621</td><td>0.668</td><td>0.643</td><td>0.655</td></td<>	999	0.625	0.621	0.668	0.643	0.655
0.562 0.560 0.546 0.656 0.652 0.617 0.708 0.703 0.701 0.708 0.703 0.701 0.531 0.627 0.672 0.528 0.534 0.521 0.589 0.594 0.653 0.688 0.681 0.653 0.677 0.670 0.693 0.573 0.653 0.693 0.571 0.670 0.693 0.572 0.693 0.693 0.510 0.573 0.622 0.588 0.589 0.549 0.588 0.583 0.549 0.658 0.660 0.655 0.658 0.643 0.665 0.659 0.643 0.665 0.650 0.640 0.665 0.650 0.640 0.665 0.650 0.665 0.665 0.650 0.665 0.665 0.650 0.665 0.665 <td< td=""><td>0.29</td><td>0.547</td><td>0.545</td><td>0.571</td><td>0.550</td><td>0.561</td></td<>	0.29	0.547	0.545	0.571	0.550	0.561
0.656 0.652 0.617 0.708 0.703 0.701 0.631 0.627 0.673 0.538 0.534 0.572 0.599 0.594 0.563 0.688 0.681 0.654 0.677 0.670 0.693 0.502 0.497 0.622 0.502 0.497 0.527 0.502 0.497 0.549 0.502 0.497 0.549 0.503 0.660 0.652 0.504 0.508 0.549 0.508 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.652 0.660 0.665 0.652 0.660 0.665 0.652 0.660 0.665 <td< td=""><td>675</td><td>0.562</td><td>0.560</td><td>0.546</td><td>0.536</td><td>0.556</td></td<>	675	0.562	0.560	0.546	0.536	0.556
0.708 0.703 0.701 0.631 0.627 0.673 0.538 0.534 0.572 0.526 0.522 0.521 0.599 0.594 0.563 0.688 0.681 0.654 0.677 0.670 0.693 0.577 0.573 0.622 0.502 0.497 0.527 0.510 0.506 0.499 0.588 0.660 0.643 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.650 0.643 0.665 0.652 0.643 0.665 0.652 0.662 0.665 0.652 0.662 0.665 0.652 0.662 0.665 0.652 0.665 0.665 0.652 0.666 0.665	089	0.656	0.652	0.617	0.611	0.638
0.631 0.627 0.673 0.538 0.534 0.572 0.526 0.522 0.521 0.589 0.594 0.563 0.688 0.681 0.653 0.677 0.670 0.693 0.577 0.573 0.622 0.502 0.497 0.527 0.510 0.583 0.549 0.588 0.583 0.549 0.650 0.665 0.665 0.650 0.643 0.665 0.651 0.643 0.665 0.652 0.643 0.665 0.653 0.643 0.665 0.654 0.665 0.665 0.655 0.643 0.665 0.656 0.643 0.665 0.657 0.643 0.665 0.652 0.643 0.665 0.652 0.643 0.665 0.652 0.662 0.665 0.652 0.662 0.665 <td< td=""><td>685</td><td>0.708</td><td>0.703</td><td>0.701</td><td>0.687</td><td>0.709</td></td<>	685	0.708	0.703	0.701	0.687	0.709
0.538 0.534 0.572 0.526 0.522 0.521 0.588 0.681 0.654 0.688 0.681 0.653 0.677 0.670 0.693 0.577 0.497 0.622 0.510 0.506 0.499 0.588 0.583 0.549 0.658 0.660 0.655 0.650 0.643 0.665 0.650 0.643 0.665 0.478 0.444 0.598 0.467 0.462 0.468 0.525 0.519 0.468 0.620 0.659 0.665 0.621 0.659 0.665 0.622 0.613 0.598 0.662 0.613 0.652 0.662 0.663 0.665 0.662 0.663 0.665 0.662 0.663 0.665 0.662 0.663 0.665	069	0.631	0.627	0.673	0.648	0.658
0.526 0.522 0.521 0.599 0.594 0.563 0.688 0.681 0.654 0.677 0.670 0.693 0.577 0.573 0.622 0.502 0.497 0.622 0.510 0.506 0.499 0.588 0.583 0.549 0.668 0.660 0.653 0.650 0.643 0.665 0.556 0.643 0.665 0.478 0.444 0.598 0.620 0.642 0.598 0.621 0.643 0.665 0.622 0.519 0.468 0.623 0.613 0.598 0.624 0.659 0.659 0.625 0.613 0.652 0.662 0.654 0.652 0.662 0.663 0.653	695	0.538	0.534	0.572	0.549	0.558
0.599 0.594 0.563 0.688 0.681 0.654 0.677 0.670 0.693 0.577 0.573 0.622 0.502 0.497 0.527 0.510 0.506 0.499 0.588 0.583 0.549 0.668 0.660 0.655 0.650 0.643 0.665 0.478 0.474 0.508 0.467 0.462 0.468 0.620 0.613 0.508 0.622 0.619 0.652 0.623 0.613 0.652 0.662 0.653 0.652 0.602 0.653 0.652 0.602 0.652 0.652 0.602 0.654 0.652 0.602 0.635 0.635	700	0.526	0.522	0.521	0.509	0.525
0.688 0.681 0.654 0.677 0.670 0.693 0.577 0.573 0.622 0.502 0.497 0.527 0.510 0.506 0.499 0.588 0.583 0.549 0.668 0.660 0.653 0.650 0.643 0.665 0.556 0.551 0.598 0.478 0.474 0.508 0.525 0.519 0.468 0.620 0.613 0.496 0.620 0.613 0.579 0.622 0.613 0.652 0.662 0.654 0.652 0.602 0.654 0.652 0.602 0.603 0.652 0.602 0.603 0.652 0.602 0.603 0.652	705	0.599	0.594	0.563	0.557	0.583
0.677 0.670 0.693 0.577 0.573 0.622 0.502 0.497 0.527 0.510 0.506 0.499 0.588 0.583 0.549 0.668 0.660 0.635 0.650 0.643 0.665 0.556 0.551 0.598 0.478 0.474 0.508 0.467 0.462 0.468 0.620 0.613 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.654 0.652 0.602 0.654 0.652 0.602 0.654 0.652 0.602 0.603 0.635	710	0.688	0.681	0.654	0.646	0.671
0.577 0.573 0.622 0.502 0.497 0.527 0.510 0.506 0.499 0.588 0.583 0.549 0.668 0.660 0.635 0.650 0.643 0.665 0.556 0.551 0.598 0.478 0.474 0.508 0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.653 0.652 0.602 0.654 0.652 0.602 0.654 0.652 0.602 0.654 0.652 0.602 0.654 0.652 0.602 0.654 0.652	715	0.677	0.670	0.693	0.673	0.687
0.502 0.497 0.527 0.510 0.506 0.499 0.588 0.583 0.549 0.668 0.660 0.635 0.650 0.643 0.665 0.556 0.551 0.598 0.478 0.474 0.508 0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.653 0.652 0.602 0.654 0.652 0.602 0.653 0.654 0.602 0.654 0.652 0.602 0.654 0.652	720	0.577	0.573	0.622	0.596	0.603
0.510 0.506 0.499 0.588 0.583 0.549 0.668 0.660 0.635 0.650 0.643 0.665 0.556 0.551 0.598 0.478 0.474 0.508 0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.603 0.635 0.507 0.596 0.635 0.602 0.506 0.635	725	0.502	0.497	0.527	0.507	0.515
0.588 0.583 0.549 0.668 0.660 0.635 0.650 0.643 0.665 0.556 0.551 0.598 0.478 0.474 0.508 0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.603 0.635 0.507 0.596 0.635 0.507 0.506 0.635	730	0.510	0.506	0.499	0.490	0.505
0.668 0.660 0.635 0.650 0.643 0.665 0.556 0.551 0.598 0.478 0.474 0.508 0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.596 0.635 0.507 0.507 0.635	735	0.588	0.583	0.549	0.547	0.570
0.650 0.643 0.665 0.556 0.551 0.598 0.478 0.474 0.508 0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.596 0.635 0.507 0.507 0.635	740	899.0	099'0	0.635	0.629	0.653
0.556 0.551 0.598 0.478 0.474 0.508 0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.596 0.635 0.507 0.506 0.635	745	0.650	0.643	0.665	0.648	0.662
0.478 0.474 0.508 0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.596 0.635 0.507 0.506 0.549	750	0.556	0.551	0.598	0.575	0.581
0.467 0.462 0.468 0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.596 0.635 0.507 0.507 0.549	755	0.478	0.474	0.508	0.488	0.495
0.525 0.519 0.496 0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.596 0.635 0.507 0.501 0.549	092	0.467	0.462	0.468	0.455	0.468
0.620 0.613 0.579 0.662 0.654 0.652 0.602 0.596 0.635 0.507 0.501 0.549	765	0.525	0.519	0.496	0.492	0.511
0.662 0.654 0.652 0.602 0.596 0.635 0.507 0.501 0.549	770	0.620	0.613	0.579	0.575	0.601
0.602 0.596 0.635 0.507 0.501 0.549	775	0.662	0.654	0.652	0.640	0.660
0.507 0.501 0.549	780	0.602	0.596	0.635	0.613	0.622
	785	0.507	0.501	0.549	0.526	0.531

wavelength Rep. 1 Rep. 2 Rep. 3 Rep. 4 Rep. 4 Rep. 3 Rep. 4 Rep. 4 Rep. 4 Rep. 3 Rep. 4 Rep. 4 Rep. 3 Rep. 3 Rep. 4 Rep. 3 Rep. 4 Rep. 3 Rep. 4 Rep. 4 Rep. 4 Rep. 3 Rep. 4 Rep. 3 Rep. 4 Rep. 3 Rep. 3 Rep. 4 Rep. 3 Rep. 4 Rep. 3 Rep	0	PTRONICS MOD	EL 736 RADIO	OPTRONICS MODEL 736 RADIOMETER-TEXSTAR, INC.	AR,INC.	
Rep. 1 Rep. 2 Rep. 3 Rep. 4 1 (trans.)			S	AMPLE 3		
(trans.) (trans.)	wavelength	Rep. 1	2	ğ	Rep. 4	Rep. 5
0.448 0.445 0.472 0.454 0.448 0.445 0.445 0.436 0.504 0.500 0.445 0.436 0.530 0.587 0.532 0.549 0.638 0.632 0.615 0.605 0.596 0.591 0.623 0.605 0.596 0.591 0.624 0.605 0.596 0.593 0.622 0.528 0.441 0.435 0.445 0.445 0.441 0.435 0.426 0.415 0.441 0.443 0.4426 0.415 0.441 0.443 0.4426 0.445 0.441 0.443 0.427 0.449 0.505 0.501 0.427 0.449 0.505 0.502 0.531 0.543 0.442 0.478 0.543 0.449 0.484 0.503 0.428 0.544 0.485 0.434 0.434 0.444 0.444	(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.448 0.445 0.445 0.436 0.504 0.500 0.478 0.473 0.530 0.587 0.552 0.549 0.638 0.632 0.615 0.615 0.596 0.591 0.623 0.615 0.596 0.593 0.624 0.605 0.509 0.533 0.453 0.453 0.441 0.435 0.442 0.453 0.439 0.437 0.449 0.453 0.509 0.501 0.449 0.459 0.543 0.440 0.449 0.449 0.544 0.448 0.543 0.541 0.552 0.501 0.449 0.563 0.464 0.458 0.503 0.481 0.552 0.543 0.563 0.484 0.345 0.458 0.563 0.404 0.345 0.458 0.531 0.548 0.440 0.458 0.534 0.548 0.441 0.	06L	0.448	0.445	0.472	0.454	0.460
0.504 0.500 0.478 0.473 0.530 0.587 0.532 0.549 0.638 0.632 0.652 0.549 0.638 0.652 0.615 0.605 0.596 0.591 0.624 0.605 0.509 0.503 0.528 0.528 0.441 0.435 0.426 0.453 0.439 0.437 0.426 0.415 0.439 0.437 0.427 0.415 0.505 0.501 0.442 0.541 0.506 0.600 0.503 0.587 0.464 0.458 0.581 0.587 0.469 0.500 0.503 0.483 0.404 0.458 0.581 0.587 0.381 0.372 0.365 0.428 0.531 0.367 0.439 0.432 0.434 0.440 0.448 0.454 0.440 0.448 0.454 0.448 0.449<	795	0.448	0.445	0.445	0.436	0.447
0.590 0.587 0.552 0.549 0.638 0.632 0.615 0.615 0.596 0.591 0.623 0.615 0.509 0.503 0.624 0.605 0.441 0.435 0.470 0.453 0.441 0.413 0.426 0.415 0.439 0.437 0.426 0.415 0.439 0.437 0.469 0.469 0.505 0.501 0.473 0.469 0.505 0.502 0.419 0.469 0.505 0.503 0.581 0.581 0.440 0.438 0.581 0.563 0.452 0.487 0.483 0.483 0.487 0.487 0.483 0.365 0.487 0.454 0.454 0.454 0.487 0.454 0.454 0.454 0.491 0.487 0.454 0.465 0.400 0.393 0.439 0.439 0.342 0.	008	0.504	0.500	0.478	0.473	0.491
0.638 0.632 0.623 0.615 0.596 0.591 0.624 0.605 0.509 0.503 0.552 0.528 0.441 0.435 0.470 0.453 0.417 0.413 0.426 0.415 0.417 0.413 0.426 0.415 0.439 0.437 0.441 0.445 0.505 0.501 0.473 0.469 0.575 0.543 0.541 0.587 0.576 0.543 0.587 0.587 0.444 0.458 0.581 0.587 0.458 0.581 0.583 0.483 0.458 0.581 0.563 0.484 0.458 0.534 0.454 0.454 0.459 0.454 0.454 0.454 0.400 0.400 0.500 0.484 0.400 0.400 0.500 0.484 0.400 0.303 0.434 0.444 0.342 0.	805	0.590	0.587	0.552	0.549	0.570
0.596 0.591 0.624 0.605 0.509 0.503 0.552 0.528 0.441 0.435 0.470 0.453 0.441 0.435 0.470 0.458 0.439 0.437 0.426 0.419 0.505 0.501 0.427 0.419 0.505 0.501 0.473 0.469 0.505 0.501 0.473 0.541 0.506 0.600 0.508 0.541 0.606 0.600 0.508 0.581 0.464 0.458 0.581 0.581 0.465 0.501 0.503 0.483 0.381 0.372 0.404 0.454 0.491 0.487 0.513 0.526 0.492 0.503 0.503 0.454 0.472 0.454 0.544 0.454 0.472 0.503 0.503 0.484 0.472 0.503 0.484 0.503 0.400 0.	810	0.638	0.632	0.623	0.615	0.632
0.509 0.503 0.552 0.528 0.441 0.435 0.470 0.453 0.441 0.435 0.470 0.453 0.439 0.427 0.415 0.505 0.501 0.427 0.419 0.505 0.501 0.473 0.469 0.505 0.501 0.473 0.469 0.506 0.600 0.598 0.581 0.606 0.600 0.598 0.581 0.464 0.458 0.581 0.581 0.465 0.468 0.581 0.563 0.381 0.372 0.404 0.492 0.361 0.365 0.491 0.487 0.454 0.454 0.492 0.454 0.454 0.454 0.472 0.404 0.505 0.484 0.537 0.503 0.503 0.484 0.400 0.303 0.433 0.343 0.342 0.349 0.349 0.349	815	0.596	0.591	0.624	0.605	0.613
0,441 0,435 0,470 0,453 0,417 0,413 0,426 0,415 0,439 0,437 0,426 0,415 0,505 0,501 0,427 0,419 0,505 0,501 0,437 0,469 0,506 0,600 0,598 0,581 0,606 0,600 0,598 0,581 0,464 0,458 0,581 0,583 0,464 0,458 0,581 0,563 0,393 0,389 0,483 0,563 0,456 0,372 0,404 0,464 0,487 0,372 0,464 0,454 0,491 0,487 0,454 0,454 0,491 0,487 0,454 0,454 0,491 0,487 0,539 0,536 0,472 0,484 0,514 0,484 0,400 0,393 0,433 0,434 0,342 0,349 0,352 0,349 0,342 0,	820	0.509	0.503	0.552	0.528	0.529
0,417 0,413 0,426 0,415 0,439 0,437 0,427 0,419 0,505 0,501 0,437 0,469 0,505 0,575 0,543 0,541 0,606 0,600 0,598 0,581 0,606 0,600 0,598 0,587 0,464 0,458 0,581 0,583 0,393 0,389 0,482 0,483 0,365 0,361 0,342 0,404 0,381 0,389 0,483 0,365 0,491 0,487 0,484 0,454 0,491 0,487 0,454 0,454 0,491 0,487 0,484 0,484 0,492 0,539 0,539 0,484 0,402 0,403 0,539 0,484 0,403 0,539 0,539 0,484 0,404 0,339 0,433 0,414 0,342 0,349 0,350 0,349 0,432 0,	825	0.441	0.435	0.470	0.453	0.455
0.439 0.437 0.427 0.419 0.505 0.501 0.473 0.469 0.505 0.501 0.473 0.469 0.506 0.508 0.581 0.587 0.606 0.600 0.598 0.587 0.464 0.458 0.583 0.483 0.393 0.389 0.404 0.404 0.395 0.389 0.404 0.365 0.391 0.389 0.422 0.404 0.426 0.422 0.367 0.365 0.429 0.439 0.342 0.367 0.429 0.439 0.434 0.484 0.440 0.487 0.513 0.514 0.537 0.539 0.526 0.484 0.400 0.530 0.539 0.520 0.440 0.539 0.520 0.343 0.342 0.539 0.343 0.343 0.342 0.349 0.350 0.340 0.349 0.	830	0.417	0.413	0.426	0.415	0.421
0.505 0.501 0.473 0.469 0.579 0.575 0.543 0.541 0.606 0.600 0.598 0.587 0.606 0.600 0.581 0.563 0.464 0.458 0.581 0.563 0.464 0.458 0.503 0.483 0.393 0.389 0.422 0.404 0.365 0.377 0.365 0.365 0.454 0.472 0.340 0.342 0.367 0.426 0.427 0.454 0.454 0.454 0.427 0.487 0.454 0.454 0.454 0.472 0.487 0.513 0.526 0.414 0.537 0.539 0.524 0.414 0.414 0.542 0.539 0.523 0.343 0.363 0.342 0.359 0.343 0.343 0.343 0.356 0.357 0.416 0.416 0.416 0.544 0.547 0.520	835	0.439	0.437	0.427	0.419	0.431
0.579 0.575 0.543 0.541 0.606 0.600 0.598 0.587 0.552 0.548 0.581 0.563 0.464 0.458 0.503 0.483 0.363 0.389 0.422 0.404 0.365 0.361 0.367 0.365 0.426 0.423 0.372 0.367 0.427 0.428 0.378 0.367 0.428 0.429 0.454 0.454 0.491 0.487 0.454 0.454 0.537 0.539 0.539 0.511 0.537 0.539 0.539 0.548 0.400 0.393 0.454 0.454 0.342 0.539 0.349 0.349 0.342 0.343 0.349 0.349 0.349 0.351 0.349 0.349 0.447 0.416 0.416 0.416 0.544 0.527 0.520 0.549 0.521 0.	840	0.505	0.501	0.473	0.469	0.486
0.606 0.600 0.598 0.587 0.552 0.548 0.581 0.563 0.464 0.458 0.581 0.563 0.464 0.458 0.503 0.483 0.393 0.389 0.422 0.404 0.365 0.377 0.365 0.404 0.426 0.423 0.399 0.398 0.491 0.487 0.454 0.454 0.491 0.487 0.454 0.454 0.537 0.539 0.511 0.537 0.539 0.514 0.400 0.330 0.484 0.440 0.539 0.484 0.342 0.343 0.414 0.342 0.343 0.343 0.342 0.343 0.343 0.356 0.343 0.343 0.357 0.343 0.343 0.393 0.389 0.379 0.416 0.543 0.507 0.476 0.475 0.544	845	0.579	0.575	0.543	0.541	0.559
0.552 0.548 0.581 0.563 0.464 0.458 0.503 0.483 0.393 0.389 0.422 0.404 0.365 0.361 0.377 0.365 0.381 0.372 0.367 0.367 0.423 0.423 0.367 0.367 0.491 0.487 0.454 0.454 0.543 0.537 0.511 0.537 0.539 0.526 0.400 0.530 0.539 0.544 0.400 0.393 0.434 0.414 0.342 0.343 0.343 0.343 0.342 0.343 0.343 0.343 0.356 0.357 0.343 0.343 0.357 0.350 0.343 0.343 0.358 0.347 0.416 0.416 0.513 0.507 0.475 0.520 0.524 0.527 0.520 0.475 0.544 0.547 0.5479 <td>820</td> <td>909.0</td> <td>0.600</td> <td>0.598</td> <td>0.587</td> <td>0.600</td>	820	909.0	0.600	0.598	0.587	0.600
0.464 0.458 0.503 0.483 0.393 0.389 0.422 0.404 0.365 0.361 0.377 0.365 0.381 0.378 0.372 0.367 0.426 0.423 0.398 0.367 0.491 0.487 0.454 0.454 0.543 0.537 0.513 0.511 0.537 0.539 0.484 0.506 0.400 0.393 0.484 0.484 0.355 0.393 0.439 0.484 0.342 0.352 0.343 0.343 0.355 0.349 0.350 0.343 0.356 0.351 0.352 0.343 0.453 0.350 0.343 0.343 0.453 0.350 0.343 0.343 0.507 0.476 0.416 0.416 0.513 0.507 0.476 0.475 0.524 0.527 0.520 0.524 0.479 0.	855	0.552	0.548	0.581	0.563	0.568
0.393 0.389 0.422 0.404 0.365 0.361 0.377 0.365 0.381 0.378 0.372 0.367 0.426 0.423 0.399 0.398 0.491 0.487 0.454 0.454 0.543 0.537 0.513 0.511 0.537 0.539 0.526 0.472 0.465 0.502 0.484 0.400 0.393 0.433 0.414 0.342 0.349 0.379 0.363 0.342 0.352 0.341 0.355 0.349 0.352 0.343 0.356 0.357 0.368 0.343 0.357 0.350 0.343 0.343 0.353 0.350 0.343 0.343 0.453 0.447 0.416 0.416 0.544 0.557 0.520 0.544 0.538 0.522 0.546 0.5479 0.5479	098	0.464	0.458	0.503	0.483	0.485
0.365 0.361 0.377 0.365 0.381 0.378 0.372 0.367 0.426 0.423 0.399 0.398 0.491 0.487 0.454 0.454 0.543 0.537 0.513 0.511 0.537 0.539 0.526 0.484 0.400 0.393 0.433 0.414 0.342 0.349 0.379 0.363 0.342 0.349 0.352 0.341 0.355 0.349 0.350 0.363 0.356 0.351 0.363 0.343 0.357 0.350 0.343 0.363 0.453 0.350 0.343 0.363 0.507 0.350 0.343 0.416 0.513 0.507 0.416 0.416 0.513 0.507 0.520 0.520 0.524 0.538 0.522 0.475 0.544 0.457 0.650 0.479	865	0.393	0.389	0.422	0.404	0.408
0.381 0.378 0.372 0.367 0.426 0.423 0.399 0.398 0.491 0.487 0.454 0.454 0.543 0.530 0.513 0.454 0.547 0.465 0.539 0.526 0.472 0.465 0.539 0.484 0.400 0.393 0.433 0.414 0.355 0.349 0.379 0.363 0.342 0.338 0.350 0.341 0.356 0.351 0.350 0.343 0.357 0.350 0.343 0.341 0.359 0.350 0.341 0.368 0.513 0.507 0.416 0.416 0.513 0.507 0.416 0.475 0.524 0.527 0.520 0.524 0.520 0.479	870	0.365	0.361	0.377	0.365	0.370
0.426 0.423 0.399 0.398 0.491 0.487 0.454 0.454 0.543 0.537 0.513 0.511 0.537 0.539 0.526 0.472 0.465 0.539 0.526 0.400 0.393 0.433 0.414 0.342 0.338 0.379 0.341 0.356 0.351 0.350 0.341 0.453 0.447 0.416 0.416 0.513 0.507 0.416 0.416 0.513 0.507 0.416 0.416 0.513 0.507 0.520 0.544 0.557 0.520 0.546 0.557 0.522	875	0.381	0.378	0.372	0.367	0.375
0.491 0.487 0.454 0.454 0.543 0.537 0.511 0.511 0.472 0.465 0.502 0.484 0.400 0.393 0.433 0.414 0.342 0.349 0.379 0.341 0.356 0.338 0.352 0.341 0.356 0.351 0.350 0.343 0.453 0.447 0.416 0.416 0.513 0.507 0.476 0.475 0.544 0.557 0.520 0.520 0.544 0.557 0.520 0.522 0.546 0.557 0.520 0.522	880	0.426	0.423	0.399	0.398	0.411
0.543 0.537 0.511 0.537 0.539 0.526 0.472 0.465 0.502 0.484 0.400 0.393 0.433 0.414 0.355 0.349 0.379 0.363 0.342 0.352 0.341 0.356 0.351 0.350 0.343 0.393 0.389 0.371 0.368 0.453 0.447 0.416 0.416 0.513 0.507 0.476 0.475 0.544 0.537 0.520 0.524 0.537 0.520 0.546 0.547 0.520	885	0.491	0.487	0.454	0.454	0.471
0.537 0.530 0.539 0.526 0.472 0.465 0.502 0.484 0.400 0.393 0.433 0.414 0.355 0.349 0.379 0.363 0.342 0.352 0.341 0.356 0.351 0.350 0.343 0.393 0.389 0.371 0.368 0.453 0.447 0.416 0.416 0.513 0.507 0.475 0.475 0.544 0.537 0.520 0.520 0.524 0.537 0.520 0.520 0.546 0.547 0.538 0.520	068	0.543	0.537	0.513	0.511	0.528
0.472 0.465 0.502 0.484 0.400 0.393 0.433 0.414 0.355 0.349 0.379 0.363 0.342 0.352 0.341 0.356 0.351 0.352 0.341 0.393 0.389 0.371 0.368 0.453 0.447 0.416 0.416 0.513 0.507 0.475 0.475 0.544 0.537 0.520 0.520 0.524 0.515 0.520 0.520 0.546 0.515 0.520 0.522	895	0.537	0.530	0.539	0.526	0.539
0,400 0.393 0.433 0.414 0,355 0.349 0.379 0.363 0,342 0.338 0.352 0.341 0,356 0,351 0.350 0.343 0,393 0,389 0,371 0.368 0,453 0,447 0,416 0,416 0,513 0,507 0,475 0,475 0,544 0,537 0,520 0,520 0,524 0,537 0,520 0,520 0,546 0,515 0,538 0,522 0,546 0,457 0,500 0,479	006	0.472	0.465	0.502	0.484	0.487
0.355 0.349 0.379 0.363 0.342 0.338 0.352 0.341 0.356 0.351 0.352 0.341 0.393 0.389 0.371 0.368 0.453 0.447 0.416 0.416 0.513 0.507 0.475 0.475 0.544 0.537 0.520 0.520 0.524 0.515 0.538 0.522 0.464 0.457 0.500 0.479	905	0.400	0.393	0.433	0.414	0.417
0.342 0.338 0.352 0.341 0.356 0.351 0.350 0.343 0.393 0.389 0.371 0.368 0.453 0.447 0.416 0.416 0.513 0.507 0.476 0.475 0.544 0.537 0.520 0.524 0.515 0.538 0.522 0.464 0.457 0.500 0.479	910	0.355	0.349	0.379	0.363	0.366
0.356 0.351 0.350 0.343 0.393 0.389 0.371 0.368 0.453 0.447 0.416 0.416 0.513 0.507 0.475 0.475 0.544 0.537 0.527 0.520 0.524 0.515 0.538 0.522 0.464 0.457 0.500 0.479	915	0.342	0.338	0.352	0.341	0.346
0.393 0.389 0.371 0.368 0.453 0.447 0.416 0.416 0.513 0.507 0.476 0.475 0.544 0.537 0.520 0.520 0.524 0.515 0.538 0.522 0.464 0.457 0.500 0.479	920	0.356	0.351	0.350	0.343	0.353
0.453 0.447 0.416 0.416 0.513 0.507 0.476 0.475 0.544 0.537 0.527 0.520 0.524 0.515 0.538 0.522 0.464 0.457 0.500 0.479	925	0.393	0.389	0.371	0.368	0.382
0.513 0.507 0.476 0.475 0.544 0.537 0.527 0.520 0.524 0.515 0.538 0.522 0.464 0.457 0.500 0.479	930	0.453	0.447	0.416	0.416	0.433
0.544 0.537 0.527 0.520 0.524 0.515 0.538 0.522 0.464 0.457 0.500 0.479	935	0.513	0.507	0.476	0.475	0.495
0.524 0.515 0.538 0.522 0.464 0.457 0.500 0.479	940	0.544	0.537	0.527	0.520	0.538
0.464 0.457 0.500 0.479	945	0.524	0.515	0.538	0.522	0.533
	950	0.464	0.457	0.500	0.479	0.483

5	V/VIS/NIR SPEC	FROPHOTOME	ETER - SIERRAC	UV/VIS/NIR SPECTROPHOTOMETER - SIERRACIN/SYLMAR CORP.	ORP.
		SA	SAMPLE 3		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.474	0.472	0.472	0.473	0.473
455	0.490	0.497	0.497	0.495	0.495
460	0.459	0.459	0.459	0.460	0.460
465	0.545	0.548	0.548	0.547	0.547
470	0.472	0.477	0.477	0.476	0.475
475	0.551	0.549	0.549	0.551	0.551
480	0.543	0.551	0.551	0.549	0.548
485	0.517	0.517	0.518	0.518	0.519
064	0.619	0.621	0.621	0.621	0.621
495	0.553	0.560	0.560	0.559	0.559
00\$	0.574	0.572	0.573	0.573	0.573
202	0.652	0.656	0.656	0.655	0.655
510	0.572	0.578	0.578	0.576	0.577
215	0.598	0.596	0.597	0.597	0.598
520	0.680	0.684	0.684	0.683	0.683
525	0.591	0.598	0.598	0.596	0.596
230	0.600	0.599	0.599	0.599	0.600
535	0.699	0.701	0.701	0.701	0.700
240	0.619	0.627	0.628	0.626	0.626
545	0.587	0.587	0.588	0.588	0.589
550	0.693	0.690	0.690	0.691	0.691
255	0.677	989.0	989.0	0.684	0.684
095	0.580	0.585	0.585	0.584	0.584
292	0.630	0.625	0.626	0.626	0.627
. 570	0.721	0.723	0.723	0.722	0.722
575	0.627	0.636	0.637	0.633	0.634
280	0.569	0.569	0.570	0.569	0.570
585	0.658	0.653	0.654	0.656	0.656
290	0.722	0.727	0.727	0.727	0.727
595	0.611	0.619	0.620	0.616	0.618
009	0.559	0.559	0.561	0.560	0.561
909	0.649	0.644	0.644	0.645	0.646
610	0.728	0.732	0.732	0.731	0.731
615	0.626	0.636	0.637	0.633	0.634

wavelength Rep. 2 RAMPLR 3 Rep. 3 Rep. 4 Rep. 5 (mm) (trans.) (trans.) (trans.) (trans.) (trans.) (mm) (trans.) (trans.) (trans.) (trans.) (trans.) (e20 0.653 0.553 0.554 0.553 0.500 622 0.605 0.599 0.600 0.600 0.600 630 0.617 0.715 0.715 0.716 0.716 0.716 640 0.579 0.684 0.685 0.682 0.682 0.683 640 0.537 0.535 0.522 0.523 0.523 0.523 0.563 660 0.639 0.643 0.	ב	JV/VIS/NIR SPEC	TROPHOTO	UV/VIS/NIR SPECTROPHOTOMETER - SIERRACIN/SYLMAR CORP.	CIN/SYLMAR CO	ORP.
Rep. 1 Rep. 2 Rep. 3 Rep. 4 F (trans.)				SAMPLE 3		
(trans.) (trans.)	wavelength	Rep. 1	Rep. 2	Rep.	Rep. 4	Rep. 5
0.551 0.553 0.554 0.553 0.605 0.605 0.600 0.600 0.717 0.715 0.716 0.716 0.675 0.684 0.685 0.682 0.559 0.564 0.568 0.562 0.537 0.535 0.536 0.534 0.630 0.623 0.625 0.625 0.630 0.642 0.643 0.639 0.631 0.642 0.643 0.639 0.633 0.642 0.643 0.639 0.633 0.642 0.643 0.639 0.633 0.642 0.643 0.639 0.634 0.643 0.643 0.639 0.644 0.643 0.641 0.641 0.655 0.531 0.532 0.539 0.657 0.659 0.643 0.641 0.657 0.659 0.640 0.641 0.657 0.659 0.650 0.651 0.649 0.	(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.605 0.599 0.600 0.600 0.717 0.715 0.716 0.716 0.675 0.684 0.685 0.682 0.539 0.564 0.566 0.562 0.537 0.535 0.536 0.534 0.630 0.623 0.625 0.623 0.631 0.642 0.643 0.639 0.531 0.535 0.536 0.533 0.525 0.523 0.523 0.523 0.616 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.632 0.523 0.523 0.523 0.634 0.649 0.641 0.704 0.704 0.704 0.704 0.704 0.635 0.633 0.641 0.641 0.645 0.649 0.641 0.641 0.655 0.657 0.642 0.641 0.645 0.644 0.644 0.644 0.649 0.	620	0.551	0.553		0.553	0.554
0.717 0.718 0.719 0.716 0.675 0.684 0.685 0.682 0.539 0.564 0.566 0.562 0.537 0.533 0.536 0.534 0.630 0.623 0.625 0.625 0.630 0.623 0.625 0.625 0.631 0.632 0.639 0.639 0.632 0.632 0.533 0.639 0.634 0.643 0.643 0.639 0.635 0.632 0.522 0.523 0.640 0.611 0.611 0.611 0.634 0.643 0.643 0.639 0.644 0.643 0.643 0.643 0.655 0.653 0.653 0.643 0.645 0.644 0.644 0.641 0.657 0.659 0.660 0.661 0.657 0.659 0.660 0.661 0.645 0.644 0.644 0.644 0.649 0.	625	0.605	0.599		0.600	0.602
0.675 0.684 0.685 0.682 0.539 0.564 0.566 0.562 0.537 0.535 0.534 0.534 0.630 0.625 0.625 0.625 0.631 0.642 0.643 0.639 0.631 0.632 0.636 0.533 0.631 0.632 0.636 0.639 0.631 0.632 0.633 0.633 0.632 0.632 0.633 0.632 0.616 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.632 0.633 0.643 0.641 0.649 0.649 0.644 0.641 0.652 0.679 0.640 0.671 0.665 0.679 0.680 0.671 0.675 0.679 0.680 0.671 0.675 0.679 0.680 0.671 0.674 0.674 0.674 0.674 0.649 0.	920	0.717	0.715		0.716	0.716
0.559 0.564 0.566 0.562 0.537 0.535 0.536 0.534 0.630 0.623 0.625 0.625 0.717 0.718 0.719 0.718 0.633 0.642 0.643 0.639 0.631 0.635 0.633 0.633 0.525 0.522 0.522 0.522 0.611 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.704 0.639 0.643 0.645 0.641 0.649 0.649 0.649 0.641 0.649 0.649 0.648 0.485 0.649 0.649 0.648 0.644 0.649 0.	635	0.675	0.684		0.682	0.683
0.537 0.535 0.536 0.534 0.630 0.623 0.625 0.625 0.717 0.718 0.719 0.718 0.633 0.642 0.643 0.639 0.631 0.535 0.533 0.633 0.525 0.522 0.523 0.522 0.546 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.634 0.643 0.643 0.641 0.704 0.704 0.704 0.704 0.635 0.643 0.643 0.641 0.645 0.643 0.643 0.641 0.657 0.659 0.660 0.641 0.657 0.659 0.660 0.661 0.657 0.659 0.660 0.661 0.485 0.489 0.485 0.485 0.485 0.644 0.644 0.644 0.649 0.644 0.644 0.644 0.460 0.	640	0.559	0.564		0.562	0.564
0.630 0.623 0.625 0.625 0.717 0.718 0.719 0.718 0.633 0.642 0.643 0.639 0.521 0.523 0.522 0.533 0.525 0.522 0.522 0.522 0.616 0.609 0.611 0.641 0.704 0.704 0.704 0.704 0.634 0.643 0.645 0.641 0.635 0.631 0.645 0.641 0.649 0.649 0.649 0.641 0.657 0.659 0.660 0.651 0.648 0.679 0.680 0.671 0.649 0.679 0.680 0.671 0.649 0.679 0.680 0.671 0.649 0.679 0.680 0.671 0.649 0.679 0.680 0.671 0.649 0.644 0.644 0.644 0.640 0.653 0.653 0.640 0.653 0.	645	0.537	0.535		0.534	0.537
0.717 0.718 0.719 0.718 0.633 0.642 0.643 0.639 0.521 0.522 0.522 0.523 0.516 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.634 0.643 0.641 0.704 0.655 0.631 0.645 0.641 0.657 0.631 0.645 0.641 0.657 0.631 0.649 0.641 0.665 0.659 0.649 0.641 0.679 0.679 0.680 0.651 0.679 0.679 0.680 0.671 0.679 0.679 0.680 0.671 0.670 0.679 0.680 0.641 0.649 0.679 0.680 0.651 0.649 0.644 0.644 0.644 0.640 0.653 0.654 0.654 0.640 0.653 0.654 0.460 0.440 0.	029	0.630	0.623		0.625	0.626
0.633 0.642 0.643 0.639 0.531 0.535 0.536 0.533 0.525 0.522 0.522 0.522 0.616 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.634 0.643 0.645 0.641 0.634 0.643 0.645 0.641 0.635 0.631 0.641 0.704 0.635 0.631 0.649 0.641 0.649 0.649 0.649 0.641 0.657 0.649 0.651 0.529 0.657 0.659 0.660 0.661 0.645 0.649 0.649 0.649 0.485 0.485 0.485 0.485 0.486 0.485 0.486 0.644 0.644 0.649 0.654 0.654 0.649 0.654 0.654 0.640 0.653 0.654 0.640 0.644 0.460<	655	0.717	0.718		0.718	0.719
0.531 0.535 0.535 0.532 0.525 0.522 0.522 0.522 0.616 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.634 0.643 0.645 0.641 0.634 0.643 0.645 0.641 0.635 0.631 0.529 0.529 0.495 0.649 0.649 0.649 0.657 0.649 0.660 0.661 0.657 0.659 0.660 0.661 0.657 0.659 0.660 0.661 0.645 0.649 0.680 0.671 0.485 0.487 0.485 0.485 0.486 0.644 0.644 0.644 0.649 0.653 0.653 0.654 0.649 0.654 0.654 0.654 0.640 0.654 0.654 0.460 0.640 0.653 0.460 0.460 0.640 0.	099	0.633	0.642		0.639	0.641
0.525 0.522 0.522 0.522 0.616 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.634 0.643 0.645 0.641 0.634 0.643 0.645 0.641 0.525 0.531 0.529 0.641 0.495 0.496 0.493 0.649 0.649 0.557 0.549 0.551 0.521 0.521 0.665 0.659 0.660 0.661 0.661 0.675 0.679 0.680 0.641 0.644 0.675 0.674 0.644 0.644 0.644 0.649 0.644 0.644 0.644 0.644 0.649 0.653 0.655 0.651 0.649 0.653 0.655 0.654 0.460 0.464 0.464 0.460 0.440 0.464 0.460 0.488 0.649 0.653 0.653 0.548 <t< td=""><td>999</td><td>0.531</td><td>0.535</td><td></td><td>0.533</td><td>0.535</td></t<>	999	0.531	0.535		0.533	0.535
0.616 0.609 0.611 0.611 0.704 0.704 0.704 0.704 0.634 0.643 0.645 0.641 0.625 0.631 0.632 0.629 0.495 0.493 0.496 0.6493 0.657 0.659 0.660 0.661 0.665 0.679 0.680 0.661 0.675 0.679 0.680 0.677 0.675 0.679 0.680 0.671 0.679 0.680 0.671 0.671 0.485 0.487 0.485 0.485 0.487 0.489 0.485 0.544 0.649 0.644 0.644 0.644 0.644 0.649 0.653 0.655 0.651 0.644 0.649 0.653 0.655 0.644 0.460 0.649 0.653 0.655 0.651 0.644 0.640 0.640 0.652 0.651 0.651 0.640 <	0.29	0.525	0.522		0.522	0.524
0.704 0.704 0.704 0.704 0.634 0.643 0.645 0.641 0.625 0.531 0.632 0.6493 0.495 0.496 0.6493 0.6496 0.6493 0.495 0.6496 0.6493 0.6493 0.6493 0.6493 0.557 0.659 0.660 0.661 0.661 0.661 0.675 0.679 0.680 0.677 0.677 0.677 0.675 0.679 0.680 0.671 0.677 0.677 0.485 0.487 0.488 0.485 0.644 0.649 0.649 0.644 0.644 0.644 0.649 0.653 0.653 0.651 0.648 0.440 0.462 0.464 0.460 0.460 0.441 0.438 0.440 0.440 0.440 0.653 0.653 0.653 0.653 0.653 0.653 0.658 0.654 0.654 0.658	675	0.616	0.609		0.611	0.614
0.634 0.643 0.645 0.641 0.525 0.531 0.532 0.529 0.495 0.496 0.493 0.496 0.493 0.557 0.549 0.551 0.551 0.665 0.665 0.660 0.661 0.665 0.679 0.680 0.677 0.485 0.487 0.489 0.485 0.485 0.487 0.489 0.485 0.479 0.644 0.644 0.644 0.649 0.649 0.644 0.644 0.649 0.653 0.651 0.548 0.649 0.653 0.651 0.651 0.440 0.462 0.644 0.460 0.441 0.482 0.440 0.488 0.653 0.653 0.653 0.651 0.653 0.654 0.468 0.488 0.653 0.654 0.468 0.488 0.653 0.654 0.651 0.653 0.	089	0.704	0.704		0.704	0.705
0.525 0.531 0.529 0.495 0.496 0.493 0.557 0.549 0.551 0.665 0.659 0.660 0.665 0.659 0.661 0.665 0.679 0.661 0.675 0.679 0.680 0.671 0.485 0.487 0.489 0.485 0.485 0.487 0.489 0.485 0.479 0.644 0.644 0.644 0.649 0.644 0.644 0.644 0.649 0.653 0.651 0.651 0.440 0.462 0.465 0.460 0.441 0.482 0.488 0.488 0.492 0.483 0.488 0.488 0.653 0.654 0.651 0.651 0.652 0.654 0.651 0.651 0.652 0.654 0.651 0.651 0.690 0.490 0.493 0.493 0.490 0.490 0.493<	685	0.634	0.643		0.641	0.642
0.495 0.496 0.493 0.557 0.549 0.551 0.551 0.665 0.659 0.660 0.661 0.675 0.679 0.660 0.661 0.675 0.679 0.680 0.677 0.567 0.577 0.572 0.485 0.487 0.485 0.479 0.476 0.478 0.544 0.649 0.644 0.644 0.644 0.649 0.653 0.651 0.649 0.653 0.651 0.440 0.462 0.651 0.441 0.482 0.488 0.482 0.488 0.488 0.593 0.587 0.587 0.652 0.651 0.651 0.652 0.654 0.651 0.652 0.654 0.651 0.652 0.654 0.651 0.652 0.654 0.651 0.690 0.690 0.693 0.690 0.693	069	0.525	0.531		0.529	0.530
0.557 0.549 0.551 0.551 0.665 0.669 0.660 0.661 0.675 0.679 0.680 0.677 0.577 0.577 0.572 0.572 0.485 0.487 0.485 0.485 0.479 0.478 0.485 0.485 0.479 0.649 0.644 0.644 0.644 0.649 0.653 0.654 0.651 0.648 0.649 0.653 0.654 0.651 0.648 0.460 0.462 0.460 0.460 0.460 0.441 0.483 0.440 0.488 0.488 0.492 0.487 0.488 0.488 0.587 0.652 0.653 0.654 0.651 0.651 0.652 0.654 0.651 0.651 0.651 0.490 0.496 0.493 0.493 0.493 0.429 0.429 0.429 0.493 0.493	969	0.495	0.493		0.493	0.495
0.665 0.659 0.660 0.661 0.675 0.679 0.680 0.677 0.567 0.574 0.577 0.572 0.485 0.487 0.485 0.485 0.485 0.487 0.485 0.485 0.479 0.476 0.485 0.544 0.580 0.649 0.644 0.644 0.644 0.649 0.653 0.653 0.651 0.651 0.460 0.462 0.460 0.460 0.460 0.441 0.483 0.440 0.488 0.488 0.492 0.487 0.488 0.488 0.488 0.593 0.587 0.587 0.587 0.587 0.652 0.651 0.651 0.651 0.651 0.490 0.490 0.493 0.493 0.493	700	0.557	0.549		0.551	0.552
0.675 0.679 0.680 0.677 0.567 0.574 0.577 0.572 0.485 0.487 0.485 0.485 0.479 0.487 0.485 0.475 0.549 0.644 0.644 0.644 0.649 0.653 0.653 0.651 0.460 0.462 0.460 0.460 0.441 0.488 0.488 0.488 0.492 0.487 0.488 0.488 0.593 0.587 0.587 0.587 0.652 0.651 0.651 0.651 0.492 0.488 0.488 0.488 0.593 0.587 0.587 0.587 0.652 0.654 0.651 0.651 0.490 0.498 0.493 0.493 0.490 0.493 0.493 0.493	705	0.665	0.659		0.661	0.662
0.567 0.574 0.572 0.485 0.487 0.489 0.485 0.479 0.476 0.478 0.475 0.550 0.543 0.545 0.544 0.649 0.644 0.644 0.644 0.649 0.653 0.651 0.540 0.651 0.651 0.460 0.462 0.460 0.441 0.482 0.440 0.492 0.488 0.488 0.653 0.587 0.587 0.653 0.651 0.651 0.652 0.651 0.651 0.440 0.488 0.488 0.593 0.587 0.587 0.654 0.651 0.651 0.652 0.654 0.651 0.690 0.691 0.693 0.490 0.496 0.493 0.490 0.498 0.493 0.429 0.429 0.429	710	0.675	0.679		0.677	0.679
0.485 0.487 0.489 0.485 0.479 0.476 0.478 0.475 0.550 0.543 0.545 0.544 0.649 0.643 0.644 0.644 0.649 0.653 0.651 0.651 0.540 0.462 0.460 0.460 0.441 0.487 0.488 0.488 0.593 0.585 0.587 0.587 0.652 0.651 0.651 0.651 0.593 0.585 0.654 0.651 0.652 0.654 0.651 0.651 0.652 0.654 0.651 0.651 0.790 0.490 0.493 0.493 0.490 0.496 0.493 0.493	715	0.567	0.574		0.572	0.574
0.479 0.476 0.478 0.475 0.550 0.543 0.545 0.544 0.649 0.644 0.644 0.644 0.649 0.653 0.651 0.651 0.544 0.551 0.553 0.651 0.460 0.462 0.464 0.460 0.441 0.488 0.440 0.488 0.492 0.487 0.488 0.488 0.593 0.587 0.587 0.587 0.652 0.651 0.651 0.651 0.592 0.654 0.651 0.651 0.490 0.496 0.493 0.493 0.429 0.429 0.493 0.429	720	0.485	0.487		0.485	0.487
0.550 0.543 0.545 0.544 0.649 0.644 0.644 0.644 0.649 0.653 0.655 0.651 0.544 0.551 0.553 0.548 0.460 0.462 0.460 0.460 0.441 0.438 0.440 0.438 0.492 0.487 0.488 0.488 0.593 0.587 0.587 0.652 0.651 0.651 0.592 0.654 0.651 0.490 0.496 0.493 0.490 0.493 0.493	725	0.479	0.476		0.475	0.478
0.649 0.644 0.644 0.644 0.649 0.653 0.655 0.651 0.544 0.551 0.553 0.548 0.460 0.462 0.464 0.460 0.441 0.438 0.440 0.438 0.492 0.487 0.488 0.488 0.593 0.587 0.587 0.652 0.651 0.651 0.651 0.490 0.490 0.493 0.493 0.490 0.493 0.493 0.493	730	0.550	0.543		0.544	0.546
0.649 0.653 0.655 0.651 0.544 0.551 0.553 0.548 0.460 0.462 0.464 0.460 0.441 0.438 0.440 0.438 0.492 0.487 0.488 0.488 0.593 0.585 0.587 0.587 0.652 0.651 0.651 0.651 0.490 0.496 0.493 0.493 0.429 0.498 0.493 0.493	735	0.649	0.644		0.644	0.646
0.544 0.551 0.553 0.548 0.460 0.462 0.464 0.460 0.441 0.438 0.440 0.438 0.492 0.487 0.488 0.488 0.593 0.585 0.587 0.587 0.652 0.651 0.654 0.651 0.592 0.699 0.601 0.597 0.490 0.496 0.498 0.493 0.429 0.431 0.429	740	0.649	0.653		0.651	0.653
0.460 0.462 0.464 0.460 0.441 0.438 0.440 0.438 0.492 0.487 0.488 0.488 0.593 0.585 0.587 0.587 0.652 0.651 0.654 0.651 0.592 0.699 0.601 0.597 0.490 0.496 0.493 0.493 0.429 0.429 0.429 0.429	745	0.544	0.551		0.548	0.550
0.441 0.438 0.440 0.438 0.492 0.487 0.488 0.488 0.593 0.585 0.587 0.587 0.652 0.651 0.654 0.651 0.592 0.599 0.601 0.597 0.490 0.496 0.498 0.493 0.429 0.429 0.431 0.429	750	0.460	0.462		0.460	0.463
0.492 0.487 0.488 0.488 0.593 0.585 0.587 0.587 0.652 0.651 0.654 0.651 0.592 0.699 0.601 0.597 0.490 0.496 0.498 0.493 0.429 0.429 0.429 0.429	755	0.441	0.438		0.438	0.441
0.593 0.585 0.587 0.587 0.652 0.651 0.654 0.651 0.592 0.599 0.601 0.597 0.490 0.496 0.498 0.493 0.429 0.429 0.429	092	0.492	0.487		0.488	0.490
0.652 0.651 0.654 0.651 0.592 0.599 0.601 0.597 0.490 0.496 0.498 0.493 0.429 0.429 0.429 0.429	765	0.593	0.585		0.587	0.589
0.592 0.599 0.601 0.597 0.490 0.496 0.498 0.493 0.429 0.429 0.429	170	0.652	0.651		0.651	0.653
0.490 0.496 0.498 0.493 0.429 0.429 0.429 0.429	775	0.592	0.599		0.597	0.599
0.429 0.429 0.431 0.429	780	0.490	0.496		0.493	0.495
	785	0.429	0.429		0.429	0.431

	N)	//VIS/NIR SPEC	TROPHOTOM	UV/VIS/NIR SPECTROPHOTOMETER - SIERRACIN/SYLMAR CORP.	SIN/SYLMAR C	CORP.
			S	SAMPLE 3		
wave	wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
	(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
	790	0.424	0.422	0.424	0.421	0.424
	795	0.477	0.470	0.473	0.472	0.474
	800	0.568	0.560	0.562	0.561	0.563
	805	0.627	0.624	0.626	0.623	0.625
	810	0.583	0.588	0.591	0.586	0.588
	815	0.488	0.494	0.497	0.492	0.494
	820	0.418	0.421	0.423	0.418	0.421
	825	0.394	0.393	0.395	0.394	0.395
	830	0.418	0.414	0.416	0.413	0.416
	835	0.484	0.476	0.479	0.477	0.479
	840	0.565	0.558	0.561	0.559	0.560
	845	0.597	0.595	0.597	0.595	0.596
	850	0.541	0.550	0.551	0.544	0.547
	855	0.451	0.661	0.458	0.457	0.458
	860	0.385	0.386	0.389	0.384	0.386
	865	0.347	0.353	0.352	0.347	0.348
	870	0.353	0.356	0.357	0.355	0.355
	875	0.394	0.396	0.397	0.347	0.400
	880	0.465	0.467	0.470	0.468	0.468
	885	0.530	0.527	0.530	0.526	0.526
	890	0.524	0.528	0.531	0.524	0.524
	895	0.461	0.471	0.471	0.463	0.462
	006	0.387	0.395	0.392	0.386	0.389
	905	0.334	0.343	0.343	0.336	0.336
	910	0.317	0.317	0.320	0.318	0.317
	915	0.328	0.329	0.331	0.332	0.332
	920	0.374	0.370	0.373	0.371	0.370
	925	0.429	0.427	0.430	0.429	0.429
	930	0.496	0.489	0.490	0.495	0.493
	935	0.530	0.531	0.532	0.526	0.526
	940	0.503	0.511	0.510	0.501	0.502
	945	0.436	0.443	0.442	0.439	0.440
	950	0.382	0.384	0.384	0.378	0.380

wavelength (nm) 450 455 460					
wavelength (nm) 450 460 465			SAMPLE 4		
(nm) 450 455 460 465	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
450 455 460 465	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
455 460 465	0.835	0.838	0.847	0.852	0.826
460	0.841	0.836	0.844	0.842	0.824
465	0.834	0.838	0.847	0.849	0.828
	0.840	0.843	0.849	0.856	0.840
470	0.844	0.845	0.846	0.854	0.826
475	0.838	0.840	0.841	0.846	0.835
480	0.843	0.839	0.844	0.848	0.827
485	0.842	0.847	0.841	0.854	0.826
490	0.842	0.847	0.842	0.851	0.829
495	0.833	0.838	0.845	0.846	0.830
200	0.843	0.838	0.842	0.847	0.832
505	0.836	0.838	0.843	0.855	0.833
510	0.838	0.840	0.841	0.847	0.827
515	0.842	0.837	0.842	0.850	0.829
520	0.835	0.838	0.844	0.841	0.835
525	0.836	0.840	0.838	0.847	0.839
530	0.836	0.835	0.842	0.844	0.831
535	0.838	0.833	0.839	0.841	0.831
540	0.828	0.835	0.836	0.838	0.828
545	0.828	0.828	0.834	0.842	0.827
550	0.832	0.831	0.832	0.837	0.816
555	0.828	0.832	0.832	0.842	0.818
260	0.828	0.828	0.830	0.836	0.827
292	0.828	0.828	0.833	0.841	0.822
270	0.824	0.830	0.832	0.836	0.822
575	0.825	0.825	0.834	0.835	0.816
280	0.825	0.824	0.830	0.835	0.822
585	. 0.828	0.830	0.828	0.838	0.819
290	0.824	0.831	0.829	0.835	0.826
595	0.829	0.832	0.832	0.839	0.823
009	0.830	0.833	0.833	0.840	0.824
605	0.832	0.835	0.836	0.840	0.830
610	0.836	0.838	0.839	0.847	0.835
615	0.838	0.841	0.841	0.849	0.831

	G&G KADOMA S	PECIKAR	EG&G KADOMA SPECTRARADIOMETER - ARMSTRONG LAB (HECV)	ISTRONG PAD	(hecv)
			SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.839	0.838	0.843	0.849	0.838
625	0.838	0.840	0.844	0.849	0.834
920	0.841	0.843	0.845	0.849	0.835
635	0.842	0.844	0.845	0.852	0.830
640	0.845	0.847	0.849	0.856	0.838
645	0.849	0.854	0.853	0.857	0.842
029	0.852	0.856	0.859	0.863	0.843
929	0.857	0.859	098.0	0.867	0.847
099	0.862	0.862	0.862	0.871	0.856
999	198.0	0.870	0.871	0.877	0.859
029	0.869	0.872	0.870	0.874	0.856
675	0.874	0.868	0.873	0.880	0.865
089	0.870	0.874	0.877	0.879	0.864
685	0.877	0.869	0.875	0.879	0.862
069	0.873	0.879	0.883	0.885	0.868
969	0.880	0.875	1.00	0.887	0.867
100	0.877	0.879	0.882	0.884	0.875
705	0.876	0.882	0.882	0.888	0.875
710	0.883	0.880	0.881	0.888	0.877
715	0.879	0.883	0.883	0.891	0.883
720	0.882	0.880	0.882	0.891	0.882
725	0.881	0.878		0.892	0.875
730	0.883	0.883		0.892	0.879
735	0.879	0.882	0.883	0.891	0.875
740	0.883	0.883		0.889	0.878
745	0.884	0.885	0.885	0.895	0.879
750	0.884	0.883	0.887	0.889	0.885
755	0.885	0.886	0.886	0.888	0.883
092	0.885	0.884	0.889	0.891	0.878
765	0.887	0.884		968.0	0.885
170	988.0	0.887	0.893	0.891	0.894
775	0.886	0.881	0.888	0.892	0.894
780	0.886	0.890		0.892	0.889
785	0.885	0.885	0.889	0.897	0.891

		() =	The second secon		()
		SA	SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.890	0.887	0.890	0.895	0.882
795	0.886	0.888	0.892	0.891	0.881
800	0.886	0.886	0.887	968.0	0.894
805	0.888	0.890	0.886	0.892	0.886
810	0.892	0.883	0.891	0.893	0.900
815	0.893	0.888	0.891	868.0	0.896
820	0.897	0.893	0.886	0.894	0.895
825	0.891	0.885	0.885	0.899	868.0
830	0.886	988.0	0.890	968.0	0.903
835	0.888	0.886	0.885	0.890	0.900
840	0.887	0.893	0.884	0.892	0.906
845	0.889	0.884	0.889	0.900	0.894
850	0.885	0.884	0.891	0.892	0.885
855	0.879	0.885	0.880	0.889	0.888
098	0.885	0.879	0.883	0.886	0.888
865	0.877	0.874	0.885	0.877	0.870
870	0.875	0.878	0.878	0.885	0.879
875	0.883	0.889	0.883	0.905	0.878
880	0.886	0.887	0.889	0.893	0.882
885	0.881	0.885	0.880	0.892	0.875
068	0.884	0.889	0.883	968.0	0.882
895	0.884	0.884	0.877	0.880	0.878
006	0.879	0.880	0.876	0.894	0.871
506	0.878	0.880	0.867	0.881	0.863
910	0.878	0.884	0.877	0.892	0.865
915	0.877	0.880	0.887	0.899	0.883
920	0.886	0.876	0.882	0.895	0.872
925	0.888	0.887	968.0	0.894	0.882
930	0.899	0.894	0.879	0.881	0.890
935	0.892	0.895	0.887	968.0	0.868
940	0.870	0.903	0.893	0.907	0.898
945	0.875	0.895	0.899	0.895	0.894
050	1000	0000	0000	2000	

	C	ARY 5G SPECT	RAPHOTOM	CARY 5G SPECTRAPHOTOMETER - BROOKS, AFB (AL/OEO)	AFB (AL/OEO)	
				SAMPLE 4		
8	wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
	(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
	450	0.823	0.824	0.821	0.819	0.817
	455	0.823	0.827		0.822	0.821
	460	0.827	0.829		0.823	0.823
	465	0.829	0.830	0.829	0.825	0.825
	470	0.829	0.832	0.829	0.827	0.826
	475	0.831	0.833	0.831	0.829	0.828
	480	0.832	0.834	0.833	0.830	0.829
	485	0.833	0.835	0.833	0.830	0.830
	490	0.833	0.835	0.833	0.831	0.830
	495	0.834	0.835	0.834	0.831	0.831
	200	0.834	0.836	0.833	0.831	0.830
	505	0.833	0.836	0.833	0.832	0.830
	510	0.834	0.835	0.833	0.832	0.830
	515	0.833	0.835	0.834	0.832	0.830
	520	0.832	0.835		0.831	0.830
	525	0.832	0.833		0.830	0.829
	530	0.830	0.832	0.831	0.829	0.828
	535	0.829	0.831	0.829	0.828	0.827
	540	0.829	0.830	0.828	0.826	0.825
	545	0.827	0.830		0.825	0.824
	550	0.827	0.828	0.826	0.825	0.823
	555	0.826	0.828		0.824	0.824
	260	0.825	0.829		0.825	0.823
	265	0.826	0.828		0.823	0.822
	570	0.824	0.826	0.824	0.822	0.821
	575	0.823	0.824	0.823	0.821	0.820
	580	0.823	0.823	0.821	0.820	0.819
	585	0.822	0.824		0.819	0.820
	590	0.823	0.825	0.824	0.822	0.821
	595	0.826	0.828	3 0.825	0.824	0.823
	009	0.829	0.831		0.827	0.827
	605	0.832	0.834		0.830	0.829
	610	0.835	0.836	5 0.834	0.832	0.832
	615	0.836	0.837	0.836	0.835	0.833

	Since of the motivation and since (inclosed)	L/OEO)
Rep. 1 Itrans.) (trans.) <	SAMPLE 4	
(trans.) (trans.) (0.837 0.837 0.837 0.844 0.848 0.854 0.854 0.854 0.859 0.878 0.878 0.878 0.878 0.878 0.878 0.878 0.878 0.878 0.878 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886	2 Rep. 3	Rep. 4 Rep. 5
0.837 0.837 0.839 0.844 0.848 0.854 0.854 0.859 0.871 0.876 0.871 0.872 0.873 0.878 0.874 0.876 0.878 0.878 0.878 0.878 0.878 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.886 0.887	(trans.)	(trans.) (trans.)
0.837 0.839 0.844 0.844 0.848 0.854 0.864 0.868 0.871 0.871 0.872 0.873 0.873 0.882 0.883 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886	0.839 0.837	0.835 0.835
0.839 0.841 0.844 0.848 0.854 0.864 0.864 0.868 0.871 0.872 0.873 0.881 0.882 0.882 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886	0.839 0.837	0.836 0.835
0.841 0.848 0.848 0.854 0.859 0.868 0.871 0.871 0.874 0.874 0.876 0.878 0.881 0.882 0.883 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886	0.840 0.838	0.836 0.836
0.844 0.854 0.854 0.854 0.859 0.868 0.871 0.871 0.874 0.876 0.878 0.881 0.882 0.883 0.883 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886	0.842 0.839	0.838 0.838
0.848 0.859 0.859 0.864 0.868 0.871 0.874 0.874 0.876 0.878 0.881 0.882 0.883 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886	0.845 0.844	0.842 0.841
0.854 0.859 0.868 0.868 0.871 0.874 0.876 0.879 0.882 0.883 0.883 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.883 0.884 0.886 0.886 0.886 0.886 0.886	0.851 0.849	0.847 0.845
0.859 0.868 0.871 0.874 0.876 0.878 0.879 0.882 0.883 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886 0.886	0.856 0.854	0.852 0.852
0.864 0.868 0.871 0.874 0.876 0.876 0.876 0.879 0.881 0.882 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886	0.861 0.859	0.858 0.857
0.868 0.874 0.874 0.876 0.876 0.878 0.880 0.881 0.882 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886		0.862 0.862
0.871 0.874 0.876 0.878 0.880 0.881 0.882 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886		998.0 998.0
0.874 0.876 0.878 0.881 0.882 0.883 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886	0.872 0.870	0.870 0.868
0.876 0.879 0.880 0.882 0.882 0.883 0.884 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886	0.874 0.874	0.872 0.872
0.878 0.880 0.881 0.882 0.883 0.884 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886	0.877 0.875	0.875 0.873
0.879 0.880 0.882 0.883 0.883 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886	0.879 0.878	
0.880 0.881 0.882 0.883 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886	0.881 0.880	0.878 0.876
0.881 0.882 0.883 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886		0.879
0.882 0.883 0.883 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886 0.886	0.883 0.882	0.880
0.882 0.883 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886	0.884 0.881	0.881 0.880
0.883 0.884 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886		0.880 0.880
0.883 0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886 0.886		0.882 0.882
0.884 0.884 0.884 0.884 0.885 0.886 0.886 0.886 0.886 0.886		
0.884 0.884 0.884 0.886 0.886 0.886 0.886 0.886		0.883 0.883
0.884 0.884 0.885 0.885 0.886 0.886 0.886 0.886	0.886 0.885	0.883 0.884
0.884 0.884 0.885 0.886 0.886 0.886 0.886	0.886 0.885	0.884 0.881
0.884 0.885 0.885 0.886 0.886 0.887		0.883 0.882
0.886 0.886 0.886 0.886 0.887 0.887	0.887 0.884	0.883 0.883
0.885 0.886 0.886 0.887 0.887		
0.886 0.886 0.887 0.887		0.885 0.883
0.886 0.887 0.887 0.887	0.887 0.887	0.885 0.885
0.886		0.885 0.885
0.886	0.889 0.886	0.885 0.885
0.886		0.885 0.884
1000	0.888 0.887	0.886 0.884
0.887	0.888	

wavelength		2	CARADI E A		
wavelength		SA	MAILE 4		
(444)	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(IIIII)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.887	0.889	0.886	0.884	0.885
795	0.887	0.888	0.887	0.885	0.886
800	0.889	0.888	0.887	0.887	0.885
805	0.888	0.889	0.887	0.886	0.886
810	0.888	0.888	0.886	0.886	0.886
815	0.887	0.890	0.889	0.888	0.884
820	0.888	0.891	0.887	0.887	0.885
825	0.887	0.890	0.886	0.887	0.887
830	0.890	0.889	0.889	0.888	0.887
835	0.885	0.888	0.888	0.886	0.886
840	0.888	0.889	0.887	0.889	0.885
845	0.886	0.887	0.888	0.887	0.888
820	0.888	0.889	0.887	0.886	0.883
855	0.886	0.890	0.888	0.881	0.884
098	0.878	0.884	0.875	0.878	0.879
865	0.879	0.874	0.871	0.871	0.872
870	0.875	0.873	0.869	0.878	0.878
875	0.883	0.883	0.881	0.879	0.880
880	0.886	0.887	0.885	0.883	0.884
885	0.887	0.887	0.887	0.885	0.885
890	0.887	0.886	0.886	0.885	0.885
895	0.885	0.885	0.883	0.883	0.884
006	0.882	0.882	0.880	0.880	0.879
905	0.879	0.879	0.876	0.877	0.877
910	0.877	0.877	0.877	0.875	0.876
915	0.882	0.883	0.881	0.881	0.881
920	0.888	0.889	0.887	0.886	0.885
925	0.889	0.890	0.889	0.888	0.888
930	0.890	068.0	0.889	0.887	0.888
935	0.890	068.0	0.890	0.888	0.888
940	0.891	0.891	0.889	0.888	0.888
945	0.891	0.892	0.890	0.889	0.888
950	0.891	0.890	0.890	0.888	0.888

wavelength (nm) 450 455 460					
(nm) (50 450 450 460		SA	SAMPLE 4		
(nm) 450 455 460	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
450 455 460	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
455	0.818	0.818	0.814	0.816	0.808
460	0.820	0.820	0.817	0.818	0.810
	0.822	0.822	0.819	0.820	0.813
465	0.824	0.824	0.820	0.822	0.814
470	0.826	0.826	0.822	0.824	0.816
475	0.827	0.827	0.823	0.825	0.817
480	0.829	0.829	0.825	0.826	0.818
485	0.829	0.829	0.825	0.827	0.819
490	0:830	0.830	0.826	0.828	0.820
495	0.831	0.830	0.827	0.828	0.821
200	0.831	0.831	0.827	0.829	0.821
505	0.831	0.831	0.827	0.829	0.821
510	0.831	0.830	0.827	0.828	0.821
515	0.831	0.830	0.826	0.828	0.820
520	0.830	0.829	0.825	0.827	0.819
525	0.829	0.828	0.824	0.826	0.819
530	0.828	0.826	0.823	0.825	0.817
535	0.826	0.825	0.822	0.823	0.816
540	0.825	0.824	0.820	0.822	0.815
545	0.824	0.823	0.819	0.821	0.814
550	0.823	0.823	0.819	0.821	0.814
555	0.824	0.823	0.819	0.821	0.813
260	0.823	0.822	0.819	0.820	0.813
565	0.822	0.821	0.818	0.820	0.812
570	0.821	0.821	0.817	0.819	0.812
575	0.820	0.819	0.816	0.818	0.811
580	0.819	0.819	0.815	0.817	0.810
585	0.820	0.819	0.816	0.817	0.810
590	0.821	0.821	0.817	0.819	0.812
595	0.824	0.824	0.820	0.822	0.815
009	0.828	0.827	0.823	0.825	0.818
905	0.831	0.830	0.826	0.828	0.822
610	0.833	0.833	0.829	0.831	0.824
615	0.835	0.834	0.831	0.833	0.826

3d	RKIN ELMER I	AMBDA 9 - BR	PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	/OEO)	
			SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.836	0.836	0.832	0.833	0.827
625	0.836	0.836	0.833	0.834	0.827
630	0.837	0.837	0.833	0.835	0.828
635	0.839	0.838	0.835	0.837	0.830
640	0.843	0.842	0.839	0.840	0.834
645	0.847	0.846	0.844	0.845	0.838
059	0.853	0.852	0.849	0.850	0.844
655	0.858	0.857	0.854	0.855	0.849
099	0.862	0.862	0.858	0.860	0.854
999	0.866	0.865	0.862	0.863	0.857
0.09	0.869	0.868	0.865	0.867	0.860
675	0.871	0.870	0.867	0.869	0.862
089	0.874	0.873	0.869	0.871	0.864
685	0.875	0.875	0.871	0.873	0.867
069	0.877	0.877	0.873	0.875	0.868
695	0.878	0.878	0.874	0.876	0.869
700	0.879	0.878	0.875	0.876	0.871
705	0.880	0.878	0.875	0.877	0.871
710	0.879	0.879	0.875	0.877	0.871
715	0.881	0.880	0.877	0.878	0.872
720	0.882	0.881	0.878	0.879	0.873
725	0.883	0.881	0.878	0.880	0.873
730	0.882	0.881	0.879	0.880	0.874
735	0.883	0.882	0.879	0.880	0.874
740	0.883	0.882	0.878	0.880	0.874
745	0.882	0.882	0.880	0.880	0.874
750	0.884	0.883	0.880	0.881	0.875
755	. 0.885	0.883	0.880	0.882	0.876
092	0.885	0.884	0.881	0.883	0.877
765	0.886	0.885	0.881	0.882	0.876
770	0.886	0.884	0.881	0.883	0.876
775	0.886	0.885	0.881	0.882	0.876
780	0.886	0.885	0.882	0.883	0.877
785	988.0	0.885	0.882	0.883	0.878

wavelength Rep. 1 Rep. 2 Rep. 3 Rep. 4 Rep. 4 (mm) (trans.)		PERKIN ELMER LAMBDA 9 - BROOKS, AFB (AL/OEO)	AMBDA 9 -]	BROOKS, AFB (AL	/OEO)	
Rep. 1 Rep. 2 Rep. 3 Rep. 4 1 (trans.)				SAMPLE 4		
(trans.) (trans.)	wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
0.887 0.886 0.882 0.883 0.886 0.883 0.883 0.883 0.887 0.886 0.883 0.885 0.887 0.888 0.885 0.885 0.887 0.888 0.886 0.886 0.888 0.888 0.886 0.886 0.889 0.889 0.886 0.886 0.889 0.889 0.886 0.886 0.889 0.889 0.886 0.886 0.889 0.889 0.886 0.886 0.889 0.889 0.886 0.886 0.889 0.889 0.889 0.886 0.881 0.882 0.882 0.886 0.882 0.883 0.882 0.886 0.881 0.882 0.883 0.836 0.882 0.883 0.883 0.843 0.883 0.884 0.830 0.845 0.883 0.884 0.830 0.845 0.884 0.	(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.886 0.886 0.883 0.884 0.887 0.884 0.885 0.887 0.886 0.884 0.885 0.887 0.886 0.887 0.886 0.887 0.888 0.886 0.886 0.888 0.889 0.886 0.886 0.889 0.889 0.889 0.890 0.889 0.890 0.891 0.892 0.889 0.892 0.893 0.896 0.889 0.892 0.890 0.891 0.889 0.892 0.892 0.892 0.889 0.892 0.893 0.894 0.889 0.894 0.894 0.894 0.889 0.884 0.886 0.836 0.875 0.841 0.823 0.836 0.875 0.842 0.832 0.836 0.881 0.884 0.882 0.836 0.882 0.883 0.842 0.842 0.886 0.887 0.	200	0.887	0.886	0.882	0.883	0.878
0.887 0.886 0.883 0.885 0.887 0.886 0.885 0.885 0.887 0.884 0.885 0.885 0.887 0.884 0.885 0.885 0.888 0.889 0.886 0.886 0.889 0.890 0.891 0.886 0.889 0.890 0.891 0.891 0.889 0.892 0.893 0.891 0.889 0.892 0.893 0.894 0.889 0.892 0.893 0.894 0.889 0.894 0.894 0.894 0.889 0.894 0.894 0.894 0.889 0.894 0.894 0.894 0.875 0.894 0.894 0.836 0.876 0.843 0.845 0.845 0.881 0.844 0.823 0.845 0.882 0.844 0.824 0.845 0.876 0.835 0.845 0.886 0.835 0.	795	0.886	0.886	0.882	0.883	0.878
0.887 0.886 0.885 0.885 0.887 0.884 0.885 0.888 0.887 0.884 0.885 0.888 0.887 0.884 0.885 0.888 0.888 0.886 0.886 0.889 0.889 0.886 0.886 0.889 0.892 0.891 0.892 0.889 0.892 0.892 0.892 0.889 0.892 0.892 0.892 0.889 0.892 0.893 0.892 0.880 0.892 0.893 0.894 0.880 0.892 0.893 0.894 0.881 0.882 0.892 0.894 0.882 0.884 0.884 0.834 0.883 0.844 0.823 0.845 0.881 0.844 0.824 0.844 0.881 0.844 0.824 0.844 0.884 0.825 0.844 0.825 0.886 0.887 0.	800	0.887	0.886	0.883	0.884	0.878
0.887 0.886 0.884 0.885 0.887 0.884 0.885 0.888 0.885 0.886 0.888 0.886 0.886 0.888 0.886 0.886 0.889 0.889 0.886 0.889 0.892 0.892 0.889 0.892 0.893 0.889 0.893 0.894 0.889 0.892 0.893 0.889 0.893 0.894 0.889 0.893 0.894 0.887 0.893 0.894 0.887 0.893 0.894 0.887 0.844 0.823 0.845 0.883 0.849 0.830 0.845 0.884 0.824 0.845 0.846 0.885 0.844 0.823 0.840 0.875 0.844 0.824 0.844 0.875 0.824 0.844 0.824 0.886 0.854 0.836 0.849	805	0.887	0.886	0.883	0.885	0.878
0.887 0.887 0.884 0.885 0.888 0.885 0.886 0.886 0.888 0.888 0.886 0.886 0.889 0.889 0.889 0.889 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.894 0.893 0.894 0.875 0.841 0.823 0.842 0.889 0.844 0.823 0.845 0.881 0.844 0.824 0.844 0.881 0.844 0.824 0.844 0.878 0.824 0.844 0.879 0.824 0.	810	0.887	0.886	0.884	0.885	0.879
0.888 0.887 0.888 0.885 0.886 0.888 0.888 0.886 0.886 0.889 0.889 0.889 0.889 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.899 0.899 0.891 0.889 0.894 0.894 0.891 0.870 0.879 0.839 0.836 0.871 0.823 0.836 0.836 0.889 0.844 0.823 0.845 0.881 0.844 0.823 0.845 0.882 0.844 0.824 0.845 0.872 0.824 0.845 0.872 0.845 0.845 0.872 0.844 0.	815	0.887	0.887	0.884	0.885	0.879
0.887 0.888 0.886 0.886 0.889 0.889 0.886 0.886 0.889 0.890 0.888 0.889 0.891 0.889 0.892 0.892 0.892 0.892 0.889 0.895 0.892 0.892 0.892 0.890 0.894 0.894 0.894 0.894 0.880 0.884 0.895 0.896 0.896 0.875 0.841 0.823 0.836 0.836 0.876 0.847 0.823 0.845 0.845 0.883 0.847 0.823 0.845 0.845 0.884 0.849 0.845 0.845 0.845 0.885 0.849 0.845 0.845 0.845 0.887 0.849 0.845 0.845 0.845 0.887 0.849 0.849 0.849 0.849 0.898 0.893 0.849 0.849 0.849 0.889 0.852 0.838	820	0.888	0.887	0.884	0.885	0.879
0.888 0.886 0.886 0.889 0.889 0.888 0.889 0.892 0.891 0.889 0.892 0.892 0.889 0.894 0.894 0.894 0.889 0.892 0.894 0.894 0.880 0.884 0.885 0.896 0.875 0.841 0.885 0.836 0.875 0.841 0.823 0.836 0.876 0.843 0.836 0.836 0.880 0.847 0.823 0.845 0.881 0.849 0.845 0.845 0.882 0.849 0.845 0.845 0.883 0.849 0.845 0.845 0.884 0.824 0.845 0.845 0.885 0.849 0.845 0.845 0.875 0.875 0.845 0.845 0.876 0.875 0.849 0.849 0.886 0.836 0.849 0.849 0.889<	825	0.887	0.888	0.885	0.886	0.880
0.889 0.896 0.888 0.889 0.890 0.891 0.889 0.892 0.891 0.889 0.892 0.893 0.892 0.880 0.894 0.894 0.894 0.894 0.885 0.885 0.894 0.894 0.894 0.886 0.887 0.886 0.836 0.875 0.884 0.883 0.836 0.876 0.842 0.823 0.836 0.887 0.845 0.836 0.845 0.888 0.849 0.845 0.845 0.887 0.849 0.845 0.845 0.887 0.844 0.825 0.845 0.879 0.874 0.825 0.845 0.886 0.851 0.825 0.845 0.886 0.853 0.835 0.847 0.888 0.853 0.835 0.845 0.888 0.852 0.836 0.852 0.889 0.852 0.	830	0.888	0.888	9880	0.886	0.882
0.889 0.892 0.891 0.889 0.895 0.892 0.889 0.894 0.894 0.885 0.894 0.894 0.886 0.894 0.894 0.887 0.884 0.886 0.875 0.841 0.885 0.836 0.875 0.841 0.823 0.836 0.876 0.843 0.823 0.836 0.876 0.842 0.823 0.836 0.887 0.842 0.823 0.836 0.888 0.849 0.837 0.845 0.887 0.849 0.823 0.845 0.878 0.844 0.824 0.845 0.879 0.844 0.824 0.845 0.879 0.844 0.824 0.849 0.886 0.844 0.824 0.849 0.888 0.854 0.824 0.849 0.889 0.854 0.835 0.849 0.889 0.854 0.834<	835	0.889	0.890	0.889	0.888	0.883
0.889 0.895 0.893 0.894 0.890 0.894 0.894 0.894 0.885 0.895 0.891 0.891 0.880 0.884 0.885 0.886 0.875 0.841 0.823 0.836 0.876 0.839 0.836 0.836 0.887 0.842 0.832 0.835 0.883 0.847 0.833 0.845 0.885 0.849 0.831 0.845 0.885 0.849 0.831 0.845 0.887 0.849 0.831 0.845 0.887 0.849 0.828 0.845 0.879 0.844 0.822 0.845 0.886 0.844 0.824 0.845 0.887 0.844 0.825 0.841 0.888 0.844 0.825 0.842 0.888 0.854 0.825 0.841 0.888 0.853 0.835 0.845 0.890 0.	840	0.889	0.892	0.890	0.891	0.886
0.890 0.894 0.894 0.894 0.885 0.892 0.893 0.891 0.880 0.884 0.885 0.886 0.875 0.841 0.885 0.836 0.872 0.841 0.823 0.835 0.876 0.847 0.827 0.843 0.883 0.849 0.830 0.845 0.883 0.849 0.830 0.845 0.881 0.849 0.828 0.845 0.883 0.849 0.828 0.845 0.878 0.849 0.842 0.845 0.878 0.842 0.845 0.845 0.879 0.871 0.842 0.845 0.886 0.851 0.852 0.845 0.888 0.853 0.849 0.849 0.888 0.854 0.836 0.851 0.889 0.855 0.836 0.852 0.890 0.856 0.838 0.852 0.890 0.	845	0.889	0.895	0.893	0.892	0.889
0.885 0.892 0.893 0.891 0.880 0.884 0.885 0.886 0.875 0.841 0.823 0.836 0.872 0.839 0.836 0.835 0.872 0.839 0.832 0.838 0.883 0.847 0.843 0.845 0.883 0.849 0.830 0.845 0.883 0.849 0.830 0.845 0.883 0.844 0.828 0.845 0.874 0.828 0.845 0.875 0.842 0.845 0.876 0.824 0.842 0.877 0.845 0.842 0.886 0.851 0.842 0.887 0.845 0.845 0.888 0.854 0.836 0.849 0.889 0.854 0.851 0.889 0.855 0.836 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852<	850	0.890	0.894	0.894	0.894	0.891
0.880 0.884 0.885 0.886 0.875 0.841 0.823 0.836 0.872 0.835 0.835 0.835 0.872 0.830 0.835 0.838 0.880 0.847 0.831 0.845 0.883 0.849 0.830 0.845 0.881 0.849 0.828 0.845 0.881 0.844 0.828 0.845 0.875 0.844 0.824 0.845 0.875 0.845 0.845 0.845 0.875 0.824 0.845 0.845 0.886 0.851 0.845 0.845 0.888 0.854 0.835 0.849 0.889 0.854 0.835 0.851 0.889 0.855 0.836 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	855	0.885	0.892	0.893	0.891	0.889
0.875 0.841 0.823 0.836 0.872 0.839 0.820 0.835 0.876 0.842 0.823 0.838 0.880 0.847 0.830 0.845 0.883 0.849 0.830 0.846 0.883 0.849 0.845 0.845 0.878 0.844 0.828 0.843 0.875 0.844 0.824 0.842 0.875 0.844 0.825 0.849 0.876 0.845 0.842 0.842 0.876 0.854 0.842 0.849 0.886 0.851 0.849 0.849 0.888 0.854 0.835 0.849 0.889 0.855 0.835 0.849 0.889 0.855 0.836 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	098	0.880	0.884	0.885	0.886	0.880
0.872 0.839 0.820 0.835 0.876 0.842 0.823 0.838 0.880 0.847 0.827 0.843 0.883 0.849 0.830 0.845 0.883 0.849 0.830 0.845 0.881 0.844 0.828 0.843 0.875 0.844 0.825 0.842 0.876 0.844 0.825 0.842 0.879 0.844 0.824 0.843 0.879 0.846 0.825 0.849 0.889 0.851 0.849 0.889 0.854 0.835 0.849 0.889 0.855 0.836 0.851 0.889 0.855 0.836 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	865	0.875	0.841	0.823	0.836	0.808
0.876 0.842 0.823 0.838 0.880 0.847 0.827 0.843 0.883 0.849 0.830 0.845 0.885 0.850 0.831 0.846 0.883 0.849 0.831 0.846 0.881 0.846 0.828 0.845 0.878 0.844 0.825 0.840 0.879 0.844 0.824 0.838 0.879 0.844 0.824 0.840 0.886 0.851 0.842 0.842 0.888 0.853 0.849 0.849 0.888 0.853 0.849 0.851 0.889 0.855 0.835 0.851 0.889 0.855 0.836 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	870	0.872	0.839	0.820	0.835	0.806
0.880 0.847 0.827 0.843 0.883 0.849 0.830 0.845 0.885 0.850 0.831 0.846 0.883 0.849 0.830 0.846 0.881 0.847 0.828 0.843 0.875 0.844 0.824 0.840 0.875 0.842 0.824 0.838 0.875 0.846 0.827 0.842 0.886 0.851 0.849 0.849 0.888 0.853 0.849 0.849 0.889 0.854 0.836 0.851 0.889 0.855 0.836 0.851 0.889 0.855 0.836 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	875	0.876	0.842	0.823	0.838	0.809
0.883 0.849 0.830 0.845 0.885 0.850 0.831 0.846 0.881 0.849 0.830 0.845 0.881 0.847 0.828 0.843 0.878 0.844 0.825 0.840 0.875 0.846 0.827 0.842 0.879 0.851 0.827 0.847 0.886 0.851 0.832 0.849 0.889 0.853 0.835 0.849 0.889 0.854 0.836 0.851 0.889 0.855 0.836 0.851 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	880	0.880	0.847	0.827	0.843	0.813
0.885 0.850 0.831 0.846 0.883 0.849 0.830 0.845 0.881 0.847 0.828 0.843 0.878 0.844 0.824 0.840 0.875 0.842 0.838 0.842 0.879 0.871 0.842 0.842 0.886 0.851 0.832 0.847 0.888 0.853 0.849 0.851 0.889 0.854 0.836 0.851 0.889 0.855 0.836 0.851 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	882	0.883	0.849	0.830	0.845	0.817
0.883 0.849 0.830 0.845 0.881 0.847 0.828 0.843 0.878 0.844 0.825 0.840 0.875 0.842 0.838 0.838 0.879 0.846 0.827 0.842 0.886 0.851 0.832 0.847 0.888 0.853 0.849 0.889 0.854 0.835 0.851 0.889 0.855 0.836 0.851 0.889 0.855 0.837 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	890	0.885	0.850	0.831	0.846	0.816
0.881 0.847 0.828 0.843 0.878 0.844 0.825 0.840 0.875 0.842 0.838 0.838 0.879 0.846 0.827 0.842 0.886 0.851 0.832 0.849 0.889 0.854 0.835 0.849 0.889 0.854 0.836 0.851 0.889 0.855 0.837 0.851 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	895	0.883	0.849	0.830	0.845	0.815
0.878 0.844 0.825 0.840 0.875 0.842 0.824 0.838 0.879 0.846 0.827 0.842 0.886 0.851 0.837 0.847 0.888 0.853 0.849 0.889 0.854 0.836 0.851 0.889 0.855 0.837 0.851 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	006	0.881	0.847	0.828	0.843	0.814
0.875 0.842 0.824 0.838 0.879 0.846 0.827 0.842 0.886 0.851 0.832 0.847 0.888 0.853 0.835 0.849 0.889 0.854 0.836 0.851 0.888 0.855 0.837 0.851 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	905	0.878	0.844	0.825	0.840	0.811
0.879 0.846 0.827 0.842 0.886 0.851 0.832 0.847 0.888 0.853 0.849 0.889 0.854 0.836 0.851 0.888 0.855 0.837 0.851 0.889 0.856 0.838 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	910	0.875	0.842	0.824	0.838	0.80
0.886 0.851 0.832 0.847 0.888 0.853 0.849 0.889 0.854 0.836 0.851 0.888 0.855 0.837 0.851 0.889 0.856 0.837 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	915	0.879	0.846	0.827	0.842	0.813
0.888 0.853 0.835 0.849 0.889 0.854 0.836 0.851 0.888 0.855 0.837 0.851 0.889 0.856 0.838 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	920	0.886	0.851	0.832	0.847	0.818
0.889 0.854 0.836 0.851 0.888 0.855 0.837 0.851 0.889 0.856 0.838 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	925	0.888	0.853	0.835	0.849	0.821
0.888 0.855 0.837 0.851 0.889 0.856 0.838 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	930	0.889	0.854	0.836	0.851	0.822
0.889 0.856 0.838 0.852 0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	935	0.888	0.855	0.837	0.851	0.822
0.890 0.856 0.838 0.852 0.890 0.856 0.838 0.852	940	0.889	0.856	0.838	0.852	0.823
0.890 0.856 0.838 0.852	945	0.890	0.856	0.838	0.852	0.823
	950	0.890	0.856	0.838	0.852	0.824

H	ITACHI U-2000 -	POLYCAST 7	HITACHI U-2000 - POLYCAST TECHNOLOGY CORPORATION	ORPORATION	
		92	SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.821	0.817	0.819	0.82	0.824
455	0.824	0.819	0.821	0.823	0.825
460	0.826	0.821	0.824	0.824	0.828
465	0.828	0.823	0.825	0.826	0.829
470	0.829	0.824	0.827	0.828	0.831
475	0.83	0.826	0.828	0.829	0.832
480	0.832	0.827	0.829	0.83	0.833
485	0.833	0.828	0.83	0.832	0.834
490	0.833	0.829	0.831	0.832	0.834
495	0.834	0.829	0.832	0.832	0.835
200	0.834	0.829	0.832	0.832	0.835
505	0.834	0.829	0.832	0.832	0.835
510	0.834	0.829	0.832	0.832	0.835
515	0.834	0.828	0.831	0.832	0.834
520	0.833	0.828	0.83	0.831	0.834
525	0.832	0.826	0.829	0.83	0.832
530	0.832	0.825	0.828	0.829	0.832
535	0.829	0.824	0.826	0.827	0.829
540	0.828	0.823	0.825	0.826	0.829
545	0.828	0.821	0.825	0.825	0.827
550	0.827	0.821	0.824	0.824	0.826
555	0.826	0.821	0.824	0.825	0.827
260	0.826	0.821	0.824	0.824	0.826
292	0.826	0.821	0.823	0.824	0.826
570	0.825	0.819	0.821	0.823	0.825
575	0.824	0.817	0.821	0.821	0.824
280	0.824	0.817	0.821	0.821	0.824
585	0.824	0.818	0.821	0.821	0.824
290	0.826	0.82	0.822	0.823	0.825
595	0.829	0.823	0.825	0.825	0.828
009	0.832	0.825	0.829	0.829	0.832
909	0.835	0.829	0.832	0.833	0.834
610	0.838	0.832	0.835	0.835	0.836
615	0.839	0.833	0.836	0.836	0.838

		AS	SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.84	0.834	0.836	0.838	0.839
625	0.84	0.834	0.837	0.838	0.839
630	0.841	0.835	0.838	0.838	0.84
635	0.843	0.837	0.839	0.84	0.842
640	0.846	0.84	0.843	0.844	0.846
645	0.851	0.845	0.848	0.848	0.85
059	0.856	0.85	0.853	0.854	0.855
655	0.861	0.855	0.858	0.859	0.861
099	998.0	0.86	0.863	0.863	0.865
999	0.869	0.864	998.0	0.866	0.869
029	0.872	998.0	698.0	0.869	0.872
912	0.875	0.869	0.872	0.872	0.874
089	0.876	0.872	0.874	0.874	0.875
685	0.879	0.873	0.876	0.876	0.877
069	0.88	0.875	0.877	0.877	0.879
695	0.882	0.876	0.879	0.879	0.88
200	0.882	0.877	0.879	0.88	0.881
705	0.882	0.877	0.88	0.88	0.881
710	0.883	0.878	0.88	0.881	0.882
715	0.884	0.879	0.882	0.882	0.884
720	0.885	0.88	0.883	0.883	0.885
725	0.886	0.881	0.883	0.883	0.885
730	0.886	0.881	0.884	0.884	0.885
735	0.886	0.881	0.883	0.883	0.885
740	0.886	0.882	0.884	0.884	0.886
745	0.886	0.882	0.884	0.883	0.885
750	0.887	0.883	0.885	0.885	0.886
755	0.888	0.883	0.886	0.886	0.887
09L	0.888	0.883	0.886	0.886	0.887
165	0.888	0.884	0.887	0.887	0.888
170	0.889	0.884	0.887	0.887	0.889
775	0.889	0.885	0.887	0.887	0.889
780	0.889	0.885	0.887	0.887	0.889
202	000	2000	1000	0000	000

		1			
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.89	0.885	0.888	0.888	0.889
795	0.89	0.885	0.888	0.888	0.89
800	0.89	0.885	0.888	0.887	0.889
\$08	68.0	0.886	0.888	0.888	0.89
810	68.0	0.886	0.889	0.889	0.89
815	0.891	0.886	0.889	0.888	0.89
820	0.891	0.887	0.889	0.889	0.891
825	0.891	0.887	0.889	0.889	0.891
830	0.891	0.887	0.89	0.889	0.891
835	0.891	0.887	0.889	0.889	0.891
840	0.891	0.887	0.889	0.889	0.891
845	0.89	0.886	0.889	0.889	0.89
820	0.889	0.885	0.888	0.887	0.889
855	0.887	0.883	0.885	0.885	0.887
098	0.883	0.879	0.881	0.882	0.883
865	0.877	0.874	0.876	0.876	0.877
870	0.877	0.873	0.876	0.876	0.877
875	0.883	0.878	0.882	0.881	0.883
880	0.887	0.883	0.886	0.885	0.887
885	0.889	0.885	0.888	0.888	0.89
068	0.89	0.885	0.888	0.888	0.889
895	0.889	0.883	0.887	0.887	0.889
006	0.89	0.88	0.884	0.884	0.885
905	0.889	0.877	0.881	0.88	0.882
910	0.881	0.876	0.879	0.879	0.881
915	0.887	0.881	0.886	0.885	0.887
920	0.892	0.886	0.89	0.889	0.892
925	0.894	0.888	0.892	0.892	0.893
930	0.895	0.888	0.893	0.892	0.894
935	968.0	0.889	0.893	0.893	0.895
940	0.896	0.889	0.893	0.893	0.895
945	968.0	0.889	0.893	0.893	0.895
050	968 0	08 0	0 803	0 803	0 005

wavelength Rep. 2 Rep. 3 Rep. 4 Rep. 4 Rep. 4 Rep. 4 Rep. 5 Rep. 4 Rep. 4 Rep. 5 Rep. 4 Rep. 5 Rep. 4 Rep. 5 Rep	OP	TRONICS MOD	EL 736 RAD	OPTRONICS MODEL 736 RADIOMETER - TEXSTAR, INC.	TAR, INC.	
Rep. 1 Rep. 2 Rep. 3 Rep. 4 F. (trans.)				SAMPLE 4		
(trans.) (trans.)	wavelength	Rep. 1	Rep. 2	Rep.	Rep. 4	Rep. 5
0.844 0.832 0.840 0.815 0.852 0.836 0.847 0.821 0.857 0.841 0.853 0.835 0.866 0.836 0.853 0.830 0.851 0.844 0.854 0.833 0.863 0.843 0.854 0.833 0.863 0.843 0.856 0.833 0.863 0.844 0.855 0.833 0.865 0.844 0.855 0.831 0.865 0.844 0.855 0.831 0.865 0.844 0.855 0.831 0.865 0.844 0.853 0.829 0.865 0.844 0.853 0.824 0.865 0.844 0.853 0.824 0.860 0.833 0.844 0.824 0.861 0.833 0.844 0.824 0.862 0.833 0.844 0.824 0.852 0.843 0.843 0.815 0.852 0.	(mu)	(trans.)	(trans.)		(trans.)	(trans.)
0.852 0.836 0.847 0.821 0.857 0.841 0.861 0.835 0.866 0.836 0.853 0.830 0.851 0.844 0.854 0.832 0.863 0.843 0.856 0.833 0.863 0.843 0.856 0.833 0.865 0.844 0.855 0.831 0.863 0.844 0.855 0.831 0.863 0.844 0.855 0.829 0.863 0.844 0.855 0.829 0.864 0.844 0.855 0.829 0.865 0.844 0.855 0.829 0.865 0.844 0.853 0.829 0.867 0.844 0.853 0.829 0.860 0.844 0.853 0.824 0.860 0.831 0.844 0.824 0.860 0.831 0.844 0.824 0.862 0.831 0.841 0.815 0.862 0.	450	0.844	0.832		0.815	0.826
0.857 0.841 0.861 0.835 0.866 0.836 0.836 0.830 0.851 0.844 0.854 0.832 0.863 0.843 0.854 0.833 0.863 0.843 0.854 0.833 0.862 0.843 0.856 0.833 0.862 0.844 0.855 0.831 0.863 0.844 0.855 0.831 0.863 0.844 0.853 0.829 0.863 0.844 0.853 0.829 0.864 0.853 0.844 0.853 0.865 0.844 0.853 0.829 0.865 0.844 0.853 0.829 0.865 0.844 0.853 0.829 0.865 0.833 0.844 0.824 0.865 0.833 0.844 0.824 0.865 0.833 0.844 0.824 0.865 0.831 0.844 0.824 0.865 0.	455	0.852	0.836		0.821	0.829
0.866 0.836 0.839 0.830 0.851 0.844 0.854 0.830 0.851 0.844 0.856 0.828 0.863 0.843 0.856 0.833 0.862 0.843 0.856 0.833 0.862 0.844 0.855 0.831 0.863 0.844 0.855 0.831 0.863 0.844 0.853 0.829 0.863 0.844 0.853 0.829 0.863 0.844 0.853 0.824 0.862 0.844 0.853 0.824 0.862 0.844 0.853 0.824 0.863 0.844 0.854 0.824 0.862 0.833 0.844 0.824 0.863 0.844 0.824 0.824 0.862 0.833 0.844 0.824 0.862 0.833 0.844 0.824 0.862 0.833 0.844 0.816 0.852 0.	460	0.857	0.841		0.835	0.839
0.851 0.844 0.854 0.830 0.851 0.844 0.856 0.828 0.863 0.843 0.856 0.833 0.882 0.843 0.856 0.833 0.862 0.844 0.855 0.831 0.863 0.844 0.855 0.829 0.863 0.844 0.853 0.829 0.863 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.861 0.844 0.853 0.829 0.862 0.834 0.824 0.829 0.862 0.831 0.844 0.824 0.863 0.844 0.844 0.824 0.864 0.833 0.844 0.824 0.852 0.833 0.844 0.824 0.852 0.833 0.843 0.816 0.852 0.833 0.844 0.843 0.852 0.833 0.844 0.844 0.846 0.	465	998.0	0.836		0.830	0.837
0.851 0.844 0.856 0.828 0.863 0.843 0.854 0.832 0.882 0.843 0.856 0.833 0.862 0.844 0.856 0.831 0.865 0.844 0.855 0.831 0.866 0.844 0.853 0.829 0.863 0.844 0.853 0.829 0.864 0.854 0.853 0.829 0.865 0.844 0.853 0.829 0.865 0.844 0.853 0.829 0.865 0.844 0.853 0.829 0.860 0.833 0.844 0.824 0.857 0.831 0.844 0.824 0.857 0.824 0.844 0.829 0.852 0.843 0.844 0.819 0.852 0.824 0.844 0.819 0.852 0.824 0.834 0.818 0.846 0.825 0.844 0.819 0.846 0.	470	0.851	0.844		0.830	0.837
0.863 0.843 0.854 0.832 0.882 0.843 0.856 0.833 0.862 0.844 0.855 0.831 0.865 0.844 0.855 0.831 0.868 0.844 0.855 0.831 0.862 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.863 0.844 0.853 0.829 0.864 0.853 0.844 0.829 0.865 0.831 0.844 0.829 0.865 0.831 0.844 0.829 0.857 0.823 0.841 0.819 0.856 0.823 0.841 0.815 0.846 0.825 0.834 0.815 0.846 0.824 0.834 0.816 0.850 0.832 0.834 0.816 0.850 0.	475	0.851	0.844		0.828	0.839
0.882 0.843 0.856 0.833 0.862 0.842 0.856 0.833 0.865 0.844 0.855 0.831 0.868 0.844 0.855 0.831 0.863 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.862 0.844 0.852 0.829 0.862 0.844 0.852 0.829 0.863 0.844 0.852 0.829 0.864 0.834 0.847 0.829 0.857 0.831 0.844 0.829 0.857 0.823 0.841 0.819 0.856 0.823 0.841 0.815 0.846 0.826 0.834 0.815 0.846 0.826 0.834 0.815 0.846 0.824 0.834 0.816 0.833 0.834 0.834 0.818 0.850 0.	480	0.863	0.843		0.832	0.842
0.862 0.842 0.855 0.833 0.865 0.844 0.855 0.831 0.868 0.846 0.853 0.833 0.862 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.863 0.844 0.853 0.829 0.864 0.849 0.824 0.829 0.865 0.841 0.842 0.824 0.865 0.833 0.847 0.824 0.860 0.833 0.847 0.824 0.867 0.831 0.844 0.824 0.857 0.833 0.844 0.824 0.852 0.833 0.844 0.824 0.852 0.833 0.844 0.819 0.852 0.823 0.841 0.815 0.852 0.823 0.834 0.815 0.846 0.834 0.834 0.818 0.846 0.834 0.835 0.816 0.846 0.	485	0.882	0.843		0.833	0.852
0.865 0.844 0.855 0.831 0.868 0.846 0.853 0.829 0.863 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.861 0.844 0.853 0.829 0.862 0.841 0.852 0.829 0.862 0.833 0.847 0.824 0.862 0.833 0.847 0.824 0.863 0.833 0.847 0.821 0.864 0.833 0.844 0.821 0.857 0.833 0.843 0.821 0.852 0.833 0.843 0.821 0.852 0.823 0.841 0.819 0.852 0.823 0.841 0.815 0.846 0.824 0.834 0.815 0.846 0.824 0.834 0.818 0.847 0.834 0.835 0.816 0.846 0.834 0.836 0.816 0.846 0.	490	0.862	0.842		0.833	0.853
0.868 0.846 0.855 0.831 0.863 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.861 0.844 0.853 0.829 0.859 0.841 0.852 0.827 0.862 0.838 0.849 0.824 0.862 0.833 0.847 0.824 0.860 0.833 0.847 0.821 0.860 0.833 0.844 0.821 0.857 0.831 0.844 0.819 0.857 0.831 0.841 0.819 0.850 0.828 0.841 0.818 0.850 0.829 0.841 0.815 0.845 0.826 0.836 0.815 0.846 0.826 0.836 0.815 0.845 0.826 0.836 0.815 0.846 0.826 0.836 0.816 0.857 0.836 0.836 0.816 0.862 0.	495	0.865	0.844		0.831	0.844
0.863 0.844 0.853 0.829 0.862 0.844 0.853 0.829 0.861 0.844 0.853 0.829 0.862 0.841 0.852 0.827 0.862 0.838 0.849 0.826 0.862 0.833 0.847 0.824 0.860 0.833 0.847 0.821 0.862 0.831 0.847 0.821 0.862 0.831 0.841 0.821 0.852 0.831 0.844 0.819 0.852 0.829 0.841 0.819 0.845 0.829 0.841 0.815 0.846 0.829 0.841 0.815 0.846 0.826 0.834 0.815 0.846 0.826 0.834 0.815 0.846 0.826 0.834 0.815 0.846 0.827 0.834 0.816 0.836 0.837 0.816 0.836 0.836 0.	200	898.0	0.846		0.831	0.840
0.862 0.844 0.854 0.829 0.861 0.844 0.852 0.829 0.859 0.841 0.852 0.827 0.862 0.838 0.849 0.824 0.862 0.837 0.847 0.821 0.862 0.831 0.844 0.821 0.857 0.831 0.844 0.819 0.852 0.828 0.841 0.819 0.852 0.828 0.841 0.819 0.852 0.828 0.841 0.815 0.854 0.829 0.841 0.815 0.846 0.829 0.841 0.815 0.846 0.826 0.836 0.815 0.846 0.826 0.836 0.815 0.847 0.835 0.835 0.816 0.847 0.836 0.836 0.816 0.850 0.836 0.836 0.816 0.850 0.836 0.836 0.816 0.846 0.	202	0.863	0.844		0.829	0.838
0.861 0.844 0.853 0.829 0.859 0.841 0.852 0.827 0.862 0.838 0.849 0.826 0.861 0.837 0.847 0.824 0.860 0.831 0.844 0.821 0.852 0.831 0.844 0.821 0.851 0.831 0.843 0.820 0.852 0.828 0.841 0.819 0.852 0.828 0.841 0.819 0.852 0.829 0.841 0.815 0.845 0.826 0.841 0.815 0.845 0.826 0.841 0.815 0.846 0.826 0.834 0.815 0.846 0.826 0.836 0.815 0.846 0.827 0.836 0.816 0.850 0.825 0.836 0.818 0.850 0.827 0.844 0.827 0.846 0.836 0.844 0.830 0.853 0.848 0.830 0.853 0.848 0.830 <td>510</td> <td>0.862</td> <td>0.844</td> <td></td> <td>0.829</td> <td>0.841</td>	510	0.862	0.844		0.829	0.841
0.859 0.841 0.852 0.826 0.862 0.838 0.849 0.826 0.861 0.837 0.847 0.824 0.860 0.831 0.847 0.821 0.862 0.831 0.844 0.821 0.851 0.830 0.843 0.819 0.852 0.828 0.843 0.819 0.852 0.828 0.841 0.819 0.852 0.828 0.841 0.818 0.852 0.829 0.841 0.815 0.845 0.826 0.837 0.815 0.846 0.826 0.834 0.815 0.846 0.826 0.835 0.815 0.846 0.825 0.835 0.816 0.850 0.825 0.835 0.816 0.851 0.835 0.818 0.818 0.857 0.844 0.827 0.830 0.853 0.848 0.836 0.836 0.848 0.	515	0.861	0.844		0.829	0.842
0.862 0.838 0.849 0.826 0.861 0.837 0.847 0.824 0.860 0.833 0.847 0.821 0.862 0.831 0.844 0.821 0.857 0.831 0.843 0.819 0.852 0.828 0.841 0.819 0.852 0.828 0.841 0.818 0.852 0.829 0.841 0.818 0.845 0.826 0.841 0.818 0.845 0.826 0.841 0.815 0.846 0.826 0.834 0.815 0.846 0.826 0.836 0.815 0.846 0.827 0.835 0.816 0.833 0.835 0.816 0.850 0.825 0.836 0.816 0.857 0.836 0.818 0.846 0.848 0.827 0.846 0.848 0.830	520	0.859	0.841		0.827	0.842
0.861 0.837 0.847 0.824 0.860 0.833 0.847 0.821 0.862 0.831 0.844 0.821 0.857 0.830 0.841 0.819 0.857 0.828 0.843 0.820 0.852 0.828 0.841 0.819 0.860 0.829 0.841 0.818 0.845 0.826 0.834 0.815 0.846 0.826 0.834 0.815 0.846 0.826 0.836 0.815 0.846 0.826 0.836 0.815 0.846 0.823 0.835 0.815 0.847 0.835 0.816 0.833 0.835 0.816 0.857 0.836 0.818 0.857 0.844 0.827 0.853 0.848 0.837 0.853 0.848 0.830	525	0.862	0.838		0.826	0.839
0.860 0.833 0.847 0.821 0.862 0.831 0.844 0.821 0.857 0.830 0.844 0.819 0.851 0.831 0.843 0.819 0.852 0.828 0.841 0.819 0.852 0.829 0.841 0.818 0.845 0.826 0.837 0.815 0.846 0.826 0.837 0.815 0.846 0.826 0.835 0.815 0.846 0.826 0.836 0.815 0.846 0.826 0.835 0.815 0.847 0.834 0.816 0.839 0.835 0.816 0.850 0.827 0.835 0.816 0.857 0.841 0.827 0.846 0.836 0.849 0.827 0.853 0.848 0.830	530	0.861	0.837		0.824	0.839
0.862 0.831 0.844 0.821 0.857 0.830 0.841 0.819 0.851 0.843 0.820 0.852 0.828 0.841 0.819 0.860 0.829 0.841 0.819 0.852 0.829 0.841 0.818 0.845 0.826 0.837 0.815 0.846 0.826 0.836 0.815 0.846 0.824 0.834 0.815 0.846 0.824 0.834 0.816 0.833 0.835 0.816 0.850 0.825 0.834 0.816 0.850 0.827 0.841 0.822 0.846 0.834 0.848 0.825 0.846 0.843 0.844 0.827 0.853 0.848 0.837 0.830	535	0.860	0.833		0.821	0.837
0.857 0.830 0.841 0.819 0.851 0.843 0.820 0.852 0.828 0.841 0.819 0.860 0.829 0.841 0.819 0.852 0.829 0.841 0.819 0.852 0.829 0.841 0.818 0.845 0.826 0.837 0.815 0.846 0.826 0.836 0.815 0.842 0.824 0.834 0.816 0.850 0.825 0.835 0.816 0.850 0.827 0.841 0.818 0.850 0.827 0.841 0.822 0.862 0.844 0.827 0.827 0.846 0.836 0.848 0.827 0.853 0.848 0.830 0.830	540	0.862	0.831		0.821	0.835
0.851 0.831 0.843 0.820 0.852 0.828 0.841 0.819 0.860 0.829 0.840 0.819 0.852 0.829 0.841 0.819 0.845 0.826 0.837 0.815 0.846 0.826 0.836 0.815 0.846 0.823 0.835 0.815 0.842 0.824 0.834 0.816 0.850 0.825 0.835 0.816 0.850 0.825 0.835 0.818 0.857 0.834 0.818 0.857 0.843 0.843 0.846 0.843 0.843 0.846 0.844 0.827 0.853 0.848 0.837 0.853 0.848 0.837	545	0.857	0.830		0.819	0.834
0.852 0.828 0.841 0.819 0.860 0.829 0.840 0.818 0.845 0.826 0.837 0.818 0.845 0.826 0.837 0.815 0.846 0.823 0.835 0.815 0.842 0.824 0.834 0.813 0.833 0.825 0.835 0.816 0.850 0.825 0.835 0.816 0.857 0.835 0.841 0.818 0.857 0.834 0.843 0.818 0.846 0.834 0.843 0.822 0.857 0.834 0.822 0.824 0.846 0.848 0.827 0.837	550	0.851	0.831		0.820	0.836
0.860 0.829 0.840 0.819 0.852 0.829 0.841 0.818 0.845 0.826 0.837 0.815 0.846 0.826 0.836 0.815 0.846 0.823 0.834 0.812 0.842 0.824 0.834 0.816 0.833 0.825 0.835 0.816 0.850 0.827 0.835 0.818 0.857 0.835 0.841 0.822 0.862 0.834 0.822 0.822 0.846 0.843 0.843 0.822 0.857 0.834 0.827 0.837 0.853 0.854 0.837 0.830	555	0.852	0.828		0.819	0.835
0.852 0.829 0.841 0.818 0.845 0.826 0.837 0.815 0.846 0.826 0.836 0.815 0.846 0.823 0.835 0.812 0.842 0.824 0.834 0.816 0.833 0.825 0.835 0.816 0.850 0.827 0.838 0.818 0.857 0.832 0.841 0.822 0.846 0.836 0.843 0.825 0.846 0.836 0.844 0.827 0.853 0.848 0.837	260	0.860	0.829		0.819	0.835
0.845 0.826 0.837 0.815 0.846 0.826 0.836 0.815 0.846 0.823 0.835 0.812 0.842 0.824 0.834 0.813 0.833 0.825 0.835 0.816 0.850 0.827 0.838 0.818 0.867 0.832 0.841 0.822 0.846 0.836 0.844 0.825 0.846 0.836 0.848 0.837 0.853 0.836 0.848 0.837	295	0.852	0.829		0.818	0.836
0.846 0.826 0.836 0.815 0.846 0.823 0.835 0.812 0.842 0.824 0.812 0.833 0.825 0.835 0.816 0.850 0.827 0.838 0.818 0.857 0.832 0.841 0.822 0.862 0.834 0.822 0.825 0.846 0.836 0.843 0.825 0.846 0.836 0.844 0.827 0.853 0.836 0.836 0.837	570	0.845	0.826		0.815	0.834
0.846 0.823 0.835 0.812 0.842 0.824 0.834 0.813 0.833 0.825 0.835 0.816 0.850 0.827 0.838 0.818 0.857 0.832 0.841 0.822 0.862 0.834 0.825 0.825 0.846 0.836 0.844 0.827 0.853 0.836 0.848 0.837	575	0.846	0.826		0.815	0.833
0.842 0.824 0.834 0.813 0.833 0.825 0.835 0.816 0.850 0.827 0.838 0.818 0.857 0.832 0.841 0.822 0.862 0.834 0.843 0.825 0.846 0.836 0.844 0.827 0.853 0.839 0.848 0.830	280	0.846	0.823		0.812	0.834
0.833 0.825 0.835 0.816 0.850 0.827 0.838 0.818 0.857 0.832 0.841 0.822 0.862 0.834 0.843 0.825 0.846 0.836 0.844 0.827 0.853 0.839 0.848 0.830	585	0.842	0.824		0.813	0.834
0.850 0.827 0.838 0.818 0.857 0.832 0.841 0.822 0.862 0.834 0.843 0.825 0.846 0.836 0.844 0.827 0.853 0.839 0.848 0.830	290	0.833	0.825		0.816	0.834
0.857 0.832 0.841 0.822 0.862 0.834 0.843 0.825 0.846 0.836 0.844 0.827 0.853 0.839 0.848 0.830	595	0.850	0.827		0.818	0.838
0.862 0.834 0.843 0.825 0.846 0.836 0.844 0.827 0.853 0.839 0.848 0.830	009	0.857	0.832		0.822	0.842
0.846 0.836 0.844 0.827 0.853 0.839 0.848 0.830	909	0.862	0.834		0.825	0.844
0.853 0.839 0.848 0.830	610	0.846	0.836		0.827	0.845
	615	0.853	0.839		0.830	0.850

IO	PTRONICS MOI	DEL 736 RADIO	OPTRONICS MODEL 736 RADIOMETER - TEXSTAR, INC.	AR, INC.	
		/S	SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
620	0.858	0.842	0.851	0.833	0.853
625	0.857	0.842	0.851	0.834	0.854
630	0.857	0.842	0.853	0.835	0.856
635	0.857	0.846	0.856	0.838	0.858
640	0.862	0.847	0.857	0.841	0.861
645	0.864	0.852	0.861	0.844	0.863
059	698.0	0.857	0.865	0.850	0.868
655	0.874	0.864	0.871	0.856	0.874
099	0.879	198.0	0.875	0.861	0.878
599	0.891	0.871	0.880	0.865	0.882
0.29	0.887	0.874	0.883	0.869	0.886
675	0.888	978.0	0.886	0.871	0.889
089	0.893	0.877	0.888	0.873	0.892
685	0.894	0.878	0.889	0.875	0.894
069	0.888	0.882	0.892	0.878	0.895
969	0.892	0.883	0.894	0.879	0.894
200	0.891	0.884	0.892	0.880	0.893
705	0.899	0.884	0.892	0.880	0.894
710	0.897	0.885	0.893	0.881	0.892
715	0.903	0.887	0.895	0.883	0.894
720	0.901	0.888	968'0	0.885	0.896
725	006'0	0.888	0.894	0.883	0.893
730	0.895	0.892	0.897	0.886	0.893
735	0.901	0.890	0.895	0.885	0.893
740	0.905	0.889	0.895	0.883	0.893
745	0.905	0.890	0.896	0.883	0.893
750	0.897	0.893	968.0	0.886	0.895
755	0.908	0.891	0.897	0.885	0.894
092	0.903	0.892	0.899	0.887	0.894
765	0.903	0.895	0.899	0.888	0.895
170	0.905	0.893	0.900	0.887	0.896
775	0.912	0.894	0.900	0.888	0.896
780	0.910	0.894	0.900	0.889	0.895
785	0.908	0.895	0.900	068.0	0.896

	OPTRONICS MODEL 736 RADIOMETER - TEXSTAR, INC.	EL 736 RADIO	OMETER - TEXS	TAR, INC.	
		S	SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
06 <i>L</i>	0.911	0.895	0.900	0.889	0.896
56L	906.0	0.897	0.900	0.891	0.897
008	0.905	968.0	0.901	0.891	0.899
802	0.907	968.0	0.902	0.891	0.899
810	0.910	0.897	0.901	0.892	0.897
815	0.911	968.0	0.900	0.891	0.897
820	0.912	0.898	0.901	0.892	868.0
825	0.903	968.0	0.902	0.892	0.898
088	0.905	968.0	0.900	0.891	0.900
\$83	0.907	0.893	0.899	0.889	0.898
840	0.902	0.893	0.900	0.891	0.900
845	0.902	0.892	668.0	0.890	0.898
820	0.907	0.891	968.0	0.888	0.895
855	0.902	0.888	0.893	0.884	0.892
098	0.899	0.884	0.889	0.881	0.888
865	0.897	0.877	0.883	0.874	0.883
870	0.892	928.0	0.882	0.873	0.882
875	0.894	0.883	0.888	0.878	0.888
880	0.898	0.888	0.891	0.883	0.892
885	0.905	0.892	0.894	0.886	0.896
068	0.904	0.892	0.895	0.886	0.896
895	0.907	0.888	0.891	0.882	0.893
006	0.911	0.882	0.887	0.878	0.889
506	0.898	0.878	0.879	0.871	0.884
910	968.0	0.881	0.880	0.873	0.886
915	906.0	0.884	0.888	0.880	0.891
920	0.919	0.890	0.892	0.885	0.896
925	0.911	0.894	0.894	0.888	0.899
930	0.922	0.895	0.897	0.889	0.900
935	0.930	0.895	0.897	0.887	0.900
940	0.931	0.894	0.894	0.888	0.899
945	0.920	968.0	0.897	0.891	0.902
950	0.922	0.897	0.899	0.892	0.903

	JV/VIS/NIR SPEC	TROPHOTO	UV/VIS/NIR SPECTROPHOTOMETER-SIERRACIN/SYLMAR CORP.	IN/SYLMAR CO	ORP.
			SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
450	0.797	0.799	0.798	0.798	0.800
455	0.800	0.802	0.801	0.801	0.802
460	0.803	0.805		0.804	0.805
465	0.805	0.808		0.805	0.807
470	0.807	0.810		0.807	0.808
475	0.808	0.811	608.0	0.809	0.810
480	0.810	0.813	0.811	0.810	0.811
485	0.811	0.814		0.812	0.814
490	0.813	0.815	0.813	0.814	0.814
495	0.813	0.816		0.814	0.816
200	0.814	0.817	0.815	0.814	0.815
505	0.815	0.817	0.815	0.814	0.815
510	0.814	0.817		0.815	0.815
515	0.815	0.817	0.815	0.814	0.815
520	0.814	0.816		0.814	0.815
525	0.814	0.816		0.813	0.815
530	0.813	0.814		0.812	0.813
535	0.811	0.814		0.811	0.813
540	0.810	0.812		0.810	0.811
545	0.810	0.811	0.810	0.809	0.811
550	0.80	0.811	0.810	0.810	0.811
555	0.80	0.812		0.809	0.811
260	0.80	0.811		0.808	0.810
565	0.808	0.811		0.809	0.809
570	0.807	0.810		0.808	0.80
575	908.0	0.809		0.807	0.808
580	0.807	0.808		0.806	0.808
585	0.807	0.809		0.808	0.808
290	0.808	0.810		0.809	0.811
595	0.812	0.814		0.812	0.813
009	0.815	0.817		0.815	0.817
905	0.818	0.820		0.819	0.820
610	0.821	0.823		0.822	0.823
615	0.824	0.825	0.823	0.823	0.825

(mm) (trans.) (trans.) (trans.) (mm) (trans.) (trans.) (trans.) (trans.) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm) (Ω	UV/VIS/NIR SPECTROPHOTOMETER-SIERRACIN/SYLMAR CORP.	TROPHOTOM	ETER-SIERRACI	IN/SYLMAR CO	RP.
Rep. 1 Rep. 2 Rep. 3 F (trans.)			S ∀	MPLE 4		
(trans.) (trans.)	wavelength	Rep. 1			Rep. 4	Rep. 5
0.824 0.826 0.824 0.824 0.826 0.825 0.825 0.826 0.826 0.828 0.828 0.828 0.828 0.831 0.832 0.831 0.832 0.832 0.831 0.832 0.837 0.831 0.832 0.837 0.849 0.847 0.847 0.851 0.853 0.853 0.852 0.853 0.853 0.853 0.852 0.866 0.854 0.867 0.866 0.865 0.867 0.866 0.866 0.867 0.866 0.867 0.867 0.867 0.869 0.871 0.873 0.872 0.873 0.874 0.873 0.874 0.874 0.874 0.875 0.874 0.874 0.875 0.875 0.874 0.874 0.875 0.874 0.875 0.875 <td< td=""><td>(mu)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td><td>(trans.)</td></td<>	(mu)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
0.824 0.826 0.825 0.825 0.827 0.826 0.828 0.833 0.832 0.831 0.833 0.832 0.834 0.834 0.837 0.846 0.849 0.847 0.846 0.849 0.852 0.851 0.853 0.853 0.852 0.853 0.852 0.853 0.852 0.852 0.854 0.852 0.852 0.855 0.853 0.853 0.856 0.866 0.866 0.867 0.866 0.866 0.869 0.870 0.866 0.869 0.871 0.869 0.869 0.871 0.872 0.870 0.872 0.873 0.871 0.872 0.874 0.872 0.874 0.874 0.874 0.875 0.875 0.874 0.874 0.875 0.877 0.879 0.877 <td< td=""><td>620</td><td>0.824</td><td>0.826</td><td>0.824</td><td>0.824</td><td>0.826</td></td<>	620	0.824	0.826	0.824	0.824	0.826
0.825 0.827 0.828 0.828 0.830 0.828 0.831 0.833 0.832 0.837 0.838 0.832 0.841 0.844 0.842 0.846 0.849 0.847 0.851 0.853 0.852 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.853 0.860 0.863 0.863 0.865 0.865 0.866 0.866 0.867 0.866 0.867 0.869 0.866 0.869 0.871 0.872 0.870 0.872 0.873 0.871 0.873 0.874 0.872 0.874 0.874 0.874 0.875 0.875 0.874 0.874 0.875 0.875 0.877 0.878 <td< td=""><td>625</td><td>0.824</td><td>0.826</td><td>0.825</td><td>0.824</td><td>0.826</td></td<>	625	0.824	0.826	0.825	0.824	0.826
0.828 0.830 0.828 0.831 0.833 0.832 0.841 0.844 0.842 0.846 0.849 0.847 0.846 0.849 0.847 0.851 0.853 0.852 0.852 0.853 0.852 0.853 0.853 0.852 0.853 0.852 0.852 0.854 0.852 0.852 0.857 0.866 0.866 0.860 0.862 0.866 0.862 0.866 0.866 0.863 0.871 0.870 0.870 0.871 0.872 0.871 0.872 0.874 0.872 0.873 0.874 0.873 0.874 0.874 0.874 0.875 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.877 0.877 0.879 0.879 0.879 0.879 0.879	630	0.825	0.827	0.826	0.825	0.827
0.831 0.833 0.832 0.837 0.838 0.837 0.841 0.844 0.842 0.846 0.849 0.847 0.846 0.853 0.852 0.857 0.858 0.858 0.857 0.865 0.865 0.863 0.865 0.866 0.865 0.867 0.866 0.866 0.867 0.866 0.867 0.870 0.866 0.869 0.871 0.870 0.870 0.871 0.872 0.871 0.872 0.873 0.872 0.873 0.874 0.873 0.874 0.874 0.874 0.875 0.874 0.874 0.875 0.875 0.874 0.875 0.875 0.874 0.877 0.875 0.875 0.877 0.877 0.877 0.879 0.877 0.879 0.880 0.877	635	0.828	0.830	0.828	0.828	0.829
0.837 0.838 0.837 0.841 0.844 0.842 0.846 0.849 0.847 0.851 0.853 0.852 0.852 0.858 0.858 0.853 0.858 0.858 0.854 0.869 0.861 0.855 0.865 0.865 0.860 0.867 0.866 0.860 0.870 0.869 0.860 0.871 0.869 0.860 0.871 0.870 0.871 0.872 0.873 0.872 0.873 0.873 0.873 0.874 0.874 0.874 0.875 0.874 0.874 0.875 0.875 0.874 0.876 0.875 0.874 0.877 0.875 0.875 0.878 0.875 0.876 0.877 0.878 0.877 0.879 0.877 0.879 0.879 0.879 0.879 0.879 0.879 0.879 0.879 0.879	640	0.831	0.833	0.832	0.831	0.832
0.841 0.844 0.842 0.846 0.849 0.847 0.851 0.858 0.858 0.852 0.858 0.858 0.857 0.860 0.863 0.863 0.863 0.863 0.864 0.865 0.863 0.865 0.866 0.866 0.866 0.870 0.869 0.869 0.871 0.869 0.869 0.871 0.870 0.870 0.872 0.873 0.871 0.872 0.873 0.872 0.873 0.874 0.873 0.874 0.874 0.874 0.875 0.874 0.874 0.876 0.875 0.874 0.876 0.875 0.874 0.876 0.875 0.875 0.876 0.877 0.876 0.877 0.878 0.877 0.879 0.879 0.879 0.879 0.879	645	0.837	0.838	0.837	0.836	0.838
0.846 0.849 0.847 0.851 0.853 0.852 0.857 0.869 0.855 0.860 0.862 0.858 0.860 0.862 0.863 0.863 0.865 0.866 0.865 0.867 0.866 0.866 0.870 0.869 0.869 0.871 0.870 0.870 0.871 0.873 0.871 0.872 0.873 0.872 0.873 0.874 0.873 0.875 0.874 0.874 0.875 0.874 0.875 0.875 0.875 0.874 0.875 0.875 0.874 0.876 0.875 0.875 0.876 0.875 0.876 0.877 0.878 0.877 0.878 0.878 0.877 0.879 0.879 0.879 0.879 0.879	029	0.841	0.844	0.842	0.842	0.843
0.851 0.853 0.852 0.855 0.858 0.858 0.860 0.860 0.861 0.863 0.862 0.863 0.863 0.863 0.866 0.863 0.867 0.866 0.869 0.870 0.869 0.869 0.871 0.869 0.869 0.871 0.870 0.872 0.873 0.873 0.873 0.875 0.874 0.874 0.875 0.874 0.875 0.875 0.874 0.874 0.875 0.875 0.875 0.875 0.875 0.876 0.875 0.875 0.877 0.876 0.875 0.876 0.877 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.879 0.879 0.879 0.879 0.879	655	0.846	0.849	0.847	0.847	0.848
0.855 0.858 0.855 0.867 0.860 0.858 0.863 0.862 0.863 0.863 0.865 0.863 0.865 0.865 0.866 0.866 0.870 0.869 0.869 0.871 0.869 0.870 0.871 0.870 0.871 0.872 0.873 0.872 0.873 0.874 0.873 0.875 0.874 0.874 0.875 0.874 0.875 0.875 0.874 0.874 0.875 0.875 0.875 0.875 0.875 0.876 0.875 0.875 0.877 0.878 0.875 0.876 0.878 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.879 0.879 0.879 0.879 0.879 0.879	099	0.851	0.853	0.852	0.851	0.853
0.857 0.860 0.858 0.860 0.862 0.861 0.863 0.865 0.863 0.863 0.865 0.866 0.865 0.870 0.869 0.869 0.871 0.869 0.870 0.871 0.870 0.871 0.872 0.873 0.872 0.873 0.874 0.873 0.875 0.874 0.874 0.875 0.874 0.875 0.875 0.874 0.874 0.875 0.875 0.875 0.876 0.875 0.876 0.877 0.875 0.877 0.878 0.875 0.876 0.878 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.881 0.877 0.879 0.879 0.879	999	0.855	0.858	0.855	0.856	0.857
0.860 0.862 0.861 0.863 0.865 0.863 0.865 0.866 0.866 0.866 0.870 0.869 0.869 0.871 0.869 0.870 0.871 0.870 0.871 0.872 0.873 0.872 0.873 0.873 0.873 0.874 0.874 0.874 0.875 0.874 0.873 0.875 0.874 0.874 0.875 0.874 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.875 0.875 0.876 0.875 0.875 0.877 0.878 0.875 0.877 0.878 0.878 0.877 0.879 0.877 0.879 0.879 0.879 0.879 0.879 0.879	029	0.857	098.0	0.858	0.858	0.858
0.863 0.865 0.865 0.865 0.867 0.866 0.866 0.870 0.866 0.869 0.871 0.869 0.870 0.871 0.870 0.871 0.872 0.872 0.872 0.873 0.873 0.873 0.874 0.874 0.874 0.875 0.874 0.874 0.875 0.874 0.874 0.875 0.875 0.874 0.876 0.875 0.874 0.875 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.878 0.877 0.879 0.879 0.879 0.879 0.879 0.879 0.879 0.879 0.879	919	098.0	0.862	0.861	0.861	0.862
0.865 0.867 0.866 0.866 0.870 0.869 0.869 0.870 0.869 0.869 0.871 0.869 0.870 0.871 0.870 0.871 0.872 0.872 0.872 0.873 0.873 0.873 0.874 0.874 0.874 0.875 0.874 0.874 0.876 0.874 0.874 0.876 0.875 0.874 0.876 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.875 0.876 0.878 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.880 0.877 0.879 0.880 0.879	089	0.863	0.865	0.863	0.862	0.864
0.866 0.869 0.866 0.869 0.870 0.869 0.869 0.871 0.869 0.869 0.871 0.870 0.870 0.871 0.872 0.872 0.873 0.873 0.873 0.875 0.874 0.873 0.874 0.874 0.874 0.875 0.874 0.874 0.875 0.875 0.874 0.875 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.875 0.876 0.878 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.881 0.877 0.879 0.880 0.879	985	0.865	0.867	998.0	0.865	0.866
0.869 0.870 0.869 0.869 0.871 0.869 0.870 0.871 0.870 0.870 0.872 0.872 0.871 0.873 0.873 0.872 0.873 0.873 0.873 0.875 0.874 0.874 0.875 0.874 0.874 0.875 0.874 0.874 0.875 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.879 0.878 0.877 0.879 0.877 0.879 0.879 0.877 0.879 0.880 0.879	069	0.866	0.869	998.0	0.867	0.868
0.869 0.871 0.869 0.869 0.871 0.870 0.870 0.872 0.872 0.871 0.873 0.873 0.872 0.873 0.873 0.873 0.874 0.874 0.874 0.876 0.874 0.874 0.875 0.874 0.874 0.876 0.875 0.874 0.875 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.879 0.878 0.879 0.878 0.877 0.879 0.880 0.877	969	0.869	0.870	0.869	0.868	0.869
0.869 0.871 0.870 0.870 0.872 0.872 0.871 0.873 0.872 0.872 0.873 0.873 0.873 0.873 0.873 0.874 0.874 0.874 0.874 0.875 0.874 0.874 0.875 0.874 0.874 0.876 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.878 0.878 0.879 0.878 0.878 0.879 0.879 0.877 0.879 0.880 0.879	200	0.869	0.871	0.869	0.869	0.870
0.870 0.872 0.872 0.871 0.873 0.873 0.872 0.875 0.873 0.873 0.873 0.873 0.874 0.874 0.874 0.874 0.875 0.874 0.874 0.876 0.875 0.874 0.877 0.875 0.874 0.877 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.879 0.878 0.879 0.879 0.877 0.879 0.879 0.877 0.879 0.880 0.879	705	0.869	0.871	0.870	0.869	0.871
0.871 0.873 0.872 0.872 0.875 0.873 0.873 0.875 0.874 0.874 0.876 0.874 0.874 0.876 0.874 0.874 0.877 0.875 0.874 0.877 0.875 0.875 0.875 0.875 0.876 0.877 0.875 0.877 0.878 0.877 0.877 0.878 0.878 0.877 0.881 0.878 0.877 0.880 0.877 0.878 0.878 0.878	710	0.870	0.872	0.870	0.870	0.871
0.872 0.875 0.873 0.873 0.875 0.874 0.873 0.876 0.874 0.874 0.875 0.874 0.874 0.876 0.875 0.874 0.878 0.875 0.875 0.878 0.875 0.876 0.878 0.875 0.877 0.878 0.878 0.877 0.878 0.878 0.877 0.881 0.878 0.878 0.878 0.878 0.879 0.878 0.878 0.877 0.881 0.877 0.879 0.880 0.877	715	0.871	0.873	0.872	0.872	0.873
0.873 0.875 0.874 0.875 0.876 0.874 0.874 0.875 0.874 0.874 0.875 0.874 0.874 0.877 0.875 0.875 0.875 0.875 0.875 0.878 0.875 0.876 0.878 0.877 0.877 0.878 0.878 0.877 0.881 0.878 0.878 0.878 0.878 0.879 0.878 0.878 0.879 0.878 0.878 0.879 0.879 0.879 0.879 0.880 0.877	720	0.872	0.875	0.873	0.872	0.874
0.875 0.876 0.874 0.873 0.875 0.874 0.874 0.876 0.874 0.874 0.876 0.875 0.874 0.877 0.875 0.875 0.878 0.875 0.876 0.878 0.877 0.877 0.879 0.878 0.877 0.881 0.878 0.878 0.878 0.878 0.879 0.878 0.877 0.879 0.879 0.877 0.879 0.880 0.879	725	0.873	0.875	0.873	0.873	0.874
0.873 0.875 0.874 0.874 0.876 0.874 0.874 0.877 0.875 0.874 0.877 0.875 0.875 0.878 0.875 0.876 0.878 0.877 0.877 0.879 0.878 0.877 0.881 0.878 0.878 0.878 0.879 0.878 0.879 0.879 0.879 0.879	730	0.875	0.876	0.874	0.873	0.875
0.874 0.876 0.874 0.874 0.877 0.875 0.874 0.878 0.875 0.875 0.878 0.875 0.876 0.878 0.877 0.877 0.881 0.878 0.877 0.878 0.878 0.877 0.879 0.877 0.878 0.879 0.877 0.879 0.879 0.877	735	0.873	0.875	0.874	0.874	0.874
0.874 0.877 0.875 0.874 0.878 0.875 0.875 0.878 0.875 0.876 0.878 0.877 0.877 0.879 0.878 0.877 0.881 0.878 0.877 0.879 0.877 0.878 0.879 0.879 0.877	740	0.874	0.876	0.874	0.874	0.875
0.874 0.878 0.875 0.875 0.878 0.875 0.876 0.878 0.877 0.877 0.881 0.878 0.877 0.879 0.877 0.878 0.877 0.879 0.879 0.877 0.879 0.877	745	0.874	0.877	0.875	0.874	0.875
0.875 0.878 0.875 0.876 0.878 0.877 0.877 0.879 0.878 0.877 0.881 0.878 0.878 0.878 0.879 0.879 0.879 0.880 0.879	750	0.874	0.878	0.875	0.875	0.876
0.876 0.878 0.877 0.877 0.879 0.878 0.877 0.881 0.878 0.877 0.879 0.877 0.878 0.880 0.879	755	0.875	0.878	0.875	0.876	0.877
0.877 0.879 0.878 0.877 0.881 0.878 0.877 0.879 0.877 0.878 0.877 0.880 0.879 0.879	092	0.876	0.878	0.877	0.876	0.878
0.877 0.881 0.878 0.877 0.879 0.877 0.878 0.880 0.877 0.879 0.879	765	0.877	0.879	0.878	0.877	0.879
0.877 0.879 0.877 0.878 0.880 0.877 0.879 0.880 0.879	770	0.877	0.881	0.878	0.878	0.879
0.879 0.880 0.877 0.879 0.880 0.879	775	0.877	0.879	0.877	0.878	0.878
0.879 0.880 0.879	780	0.878	0.880	0.877	0.877	0.878
	785	0.879	0.880	0.879	0.879	0.880

n	V/VIS/NIR SPEC	TROPHOTOM	UV/VIS/NIR SPECTROPHOTOMETER-SIERRACIN/SYLMAR CORP.	N/SYLMAR CO	RP.
			SAMPLE 4		
wavelength	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5
(mm)	(trans.)	(trans.)	(trans.)	(trans.)	(trans.)
190	0.878	0.882	0.879	0.878	0.879
795	0.878	0.880	0.878	0.879	0.880
800	0.878	0.882	0.879	0.879	0.880
805	0.878	0.882	0.879	0.879	0.879
810	0.879	0.882	0.879	0.878	0.879
815	0.879	0.882	0.880	0.881	0.881
820	0.880	0.882	0.881	0.879	0.881
825	0.879	0.882	0.880	0.880	0.882
830	0.880	0.885	0.883	0.879	0.881
835	0.882	0.884	0.883	0.880	0.881
840	0.880	0.885	0.881	0.879	0.882
845	0.879	0.879	0.880	0.880	0.882
820	0.884	0.884	0.879	0.878	0.882
855	0.877	0.880	0.878	0.875	0.879
098	0.870	0.876	0.873	0.872	0.876
865	0.873	0.880	0.875	0.864	0.866
870	0.873	0.884	0.876	0.864	0.866
875	0.869	0.872	0.870	0.868	0.869
880	0.879	0.882	0.883	0.874	0.877
885	0.880	0.889	0.887	0.878	0.879
068	0.883	0.886	0.882	0.875	0.876
895	0.877	0.883	0.883	0.875	0.876
006	0.883	0.880	0.879	0.872	0.873
905	0.883	0.882	0.879	0.867	0.870
910	0.869	0.879	0.877	0.867	0.870
915	0.870	0.884	0.875	0.874	0.876
920	0.879	0.891	0.888	0.878	0.880
925	0.889	0.895	0.890	0.879	0.881
930	0.879	0.885	0.880	0.881	0.881
935	0.888	0.893	0.893	0.883	0.883
940	0.890	0.893	0.889	0.881	0.883
945	0.877	0.888	0.882	0.881	0.883
950	0.888	0.895	0.893	0.885	0.884